**ATTACHMENT** A – FACT SHEET

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# ATTACHMENT A – FACT SHEET

## A1 INTRODUCTION

This Fact Sheet contains the legal, factual and technical rationale that serve as the basis for the requirements in this Order. This Fact Sheet additionally provides detailed information regarding Total Maximum Daily Loads for implementation through this Order. All Attachments to this Order, including this Fact Sheet, are incorporated by reference into this Order.

## A2 UPDATED PERMIT REQUIREMENTS

The following provides a summary of the major updates incorporated into this Order as compared to the previous statewide National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System Permit for the California Department of Transportation (Department), Order 2012-0011-DWQ as amended by Order WQ 2014-0006-EXEC, 2014-0077-DWQ, 2015-0036-EXEC, and 2017-0026-EXEC (collectively referred to as the previous permit):

1. The Department's Tier 1 and Tier 2 discharge characterizing monitoring required by the previous permit are replaced with TMDL-focused monitoring requirements that encourage the Department's participation in Regional Water Quality Control Board (Regional Water Board) regional monitoring programs, local agency cooperative monitoring programs and/or equivalent individual monitoring designed to demonstrate attainment of applicable waste load and load allocations.
2. The Department is required to demonstrate compliance with applicable TMDLs through compliance with waste load and load allocations provided in this Fact Sheet and Attachment D of this Order;
3. The Department is required to use analytical laboratory methods that detect and measure pollutants at or below the permit limits and/or applicable water quality criteria, per the United States Environmental Protection Agency (U.S. EPA) 2014 Sufficiently Sensitive Test Methods Final Rule;
4. The Department is required to comply with the statewide Trash Provisions by identifying significant trash generating areas and implementing controls to address trash in these areas by no later than December 2, 2030;
5. The Department is required to address infrastructure resiliency and stormwater management program adaptation necessary to address impacts from climate change through implementation of asset management and improved best management practices;
6. The Department is required to electronically submit all permit deliverables to the State Water Board, Stormwater Multiple Application and Report Tracking

System (SMARTS) per U.S. EPA NPDES Electronic Reporting Rule, dated October 22, 2015 Final Rule (Federal Register Volume 80 Number 204);

7. The Department is required to install best management practices and controls at pavement grinding (e.g., concrete and asphalt grindings) stockpiles to prevent: (1) stormwater run-on to, and run-off from, pavement grindings stockpiles, and (2) discharges of leachate, polluted stormwater, and non-stormwater; and
8. The Department is required to update its storm sewer mapping in its Stormwater Management Program per 40 Code of Federal Regulations (C.F.R.) section 122.26(d)(1)(iii)(B)*(1)*.

## A3 PERMITTING AND FEDERAL REGULATORY BACKGROUND

### A3.1 Federal Regulatory Background

In 1972, the Federal Water Pollution Control Act (also referred to as the Clean Water Act) was amended to provide that the discharge of pollutants to waters of the United States from any point source is unlawful unless the discharger obtains an NPDES permit and the discharges comply with an NPDES permit. In 1987, the Clean Water Act was amended, adding section 402(p) and establishing stormwater discharges as point source discharges. Section 402(p) of the Clean Water Act provides a framework for regulating municipal and industrial stormwater discharges under the NPDES program.

On November 16, 1990, U.S. EPA promulgated final regulations requiring NPDES stormwater permits for discharges from a municipal separate storm sewer system. Federal regulations define a municipal separate storm sewer system as a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains) owned or operated by a State or other public body designed or used for collecting or conveying stormwater which is not a combined sewer and not part of a Public Owned Treatment Works. (40 C.F.R. section 122.26(b)(8)). The Department is responsible for the design, construction, management, and maintenance of the State highway system, including freeways, bridges, tunnels, the Department's facilities, and related properties. The Department's discharges consist of stormwater and non-stormwater discharges from state-owned right-of-way.

U.S. EPA, as the permitting authority, delegated the NPDES permitting program for California to the Water Boards; therefore, the State and Regional Water Boards issue NPDES permits for the regulation of municipal stormwater discharges; the State Water Board issues statewide NPDES

permits and the Regional Water Boards issue individual and regionwide NPDES permits.

### A3.2 Permitting Background

Before July 1999, stormwater discharges from the Department's separate storm sewer systems were regulated by individual NPDES permits issued by the Regional Water Boards. On July 15, 1999, the State Water Board adopted statewide permit Order 99-06-DWQ that regulated all stormwater discharges from Department-owned municipal separate storm sewer system, maintenance facilities, and construction activities; Order 99-06-DWQ superseded the individual NPDES permits issued by the Regional Water Boards. On September 19, 2012, the State Water Board adopted Order 2012-0011-DWQ, which superseded Order 99-06-DWQ. This Order supersedes Order 2012-0011-DWQ.

Clean Water Act section 402(p) and 40 C.F.R. section 122.26(a)(1)(v) allows the State to regulate discharges from a municipal separate storm sewer system on a system-wide or jurisdiction-wide basis. The State Water Board considers all stormwater discharges from all municipal separate storm sewer systems and activities under the Department's jurisdiction as one system to be regulated by this Order.

## A4 APPLICABLE PLANS, POLICIES, AND REGULATIONS

### A4.1 Legal Authorities

This Order serves as waste discharge requirements pursuant to California Water Code (Water Code) article 4, chapter 4, division 7 (commencing with section 13260) for discharges to waters of the State. This Order is also issued pursuant to Clean Water Act section 402 and implementing regulations adopted by U.S. EPA and Water Code chapter 5.5, division 7 (commencing with section 13370) for discharges to the waters of United States. Therefore, this Order serves as an NPDES permit and as waste discharge requirements for point source discharges to waters of the State and waters of United States.

### A4.2 California Environmental Quality Act

Per Water Code section 13389, the action to adopt an NPDES permit is exempt from the provisions of the California Environmental Quality Act (Public Resources Code section 21100 et seq.).

## A4.3 Federal and State Regulations, Policies and Plans

### *A4.3.1 Antidegradation Policy*

Federal regulations at 40 C.F.R. section 131.12 require water quality standards to include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy through State Water Board Resolution 68-16, Statement of Policy with Respect to Maintaining High Quality of Waters in California, which incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Water Quality Control Plans implement, and incorporate by reference, both the State and federal antidegradation policies. Permitted discharges shall be consistent with the antidegradation provisions of 40 C.F.R. section 131.12 and State Water Board Resolution 68-16.

This Order is consistent with the above stated antidegradation policies and provisions as this Order does not allow further degradation of receiving waters. This Order continues the previous level or water quality protection to waters of the United States in the previous permit, and further protects water quality by requiring the Department to:

- Implement trash control measures statewide per the 2015 Statewide Trash Provisions;
- Implement asset management and other stormwater program measure to assure resiliency of best management practices installed to manage stormwater discharges;
- Comply with waste load allocations identified to address receiving water impairments due to the Department's stormwater discharges
- Implement post construction best management practices per a more stringent, reduced area of disturbance threshold.

### *A4.3.2 Anti-Backsliding Requirements*

Section 1342(o) of the Clean Water Act and federal regulations at 40 C.F.R. section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be at least as stringent as those in the previous permit, with some exceptions that limitations may be relaxed based on new information made available since the adoption of the previous permit. All effluent limitations and other requirements in this Order are at least as stringent as the requirements in the previous permit.

*A4.3.3 Endangered Species Act Requirements*

This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Acts (Fish and Game Code, sections 2050-2097) or the Federal Endangered Species Act (16 United States Code sections 1531-1544). This Order requires compliance with effluent limitations, receiving water limitations, and other requirements to protect the beneficial uses of waters of the United States. The Department is responsible for complying with all requirements of the applicable Endangered Species Act.

*A4.3.4 Water Quality Control Plan*

Each Regional Water Board has adopted water quality control plans specific to their region. The region-specific water quality control plans, referred to as Basin Plans, designate receiving water beneficial uses, establish water quality objectives, and contain implementation programs and policies to achieve those objectives for all waters addressed through the plan. The Department is subject to the prohibitions and requirements of each Basin Plan. Requirements in this Order implement the Regional Water Board Basin Plans.

*A4.3.5 Impaired Waters on the Clean Water Act 303(d) List*

Clean Water Act section 303(d) requires identification of specific waters where data indicate water quality standards will not be met after implementation of technology-based effluent limitations on point sources. The Department is identified to have contributing responsibility for the TMDLs listed in this Order for water bodies in
Clean Water Act section 303(d) list. TMDLs establish waste load allocations for point source discharges and load allocations for non-point source discharges. TMDLs are established to achieve the water quality standards for the impaired waters.

*A4.3.6 Enforcement and Non-Compliance*

The State and Regional Water Boards will enforce the provisions and requirements of this Order. NPDES regulations require the Department to notify the State or appropriate Regional Water Board of anticipated non-compliance with this Order (40 C.F.R. section 122.41(l)(2)) or of instances of non-compliance that endanger human health or the environment (40 C.F.R. section 122.41(*l*)(6)).

*A4.3.7 Public Participation*

The Department, interested agencies, and persons have been notified of the State Water Board's intent to reissue requirements for stormwater discharges and have been provided an opportunity to submit their written comments and recommendations and receive responses to these written comments. The State Water Board, through public testimony in public meetings and in written form, has received and considered all comments pertaining to this Order.

## A4.4 Local Jurisdictions and Preemption

Stormwater and non-stormwater discharges from municipal separate storm sewer systems that are owned and managed by local jurisdictions may discharge to stormwater conveyance systems owned and managed by the Department; likewise, stormwater and non-stormwater discharges from the Department's right-of-way, properties, facilities, and activities may discharge to stormwater conveyance systems managed by local jurisdictions. This Order does not supersede the authority of the Department or the authority of the local jurisdiction to prohibit, restrict, or control stormwater discharges, and conditionally exempt non-stormwater discharges, to storm drain systems or other watercourses within its jurisdiction as allowed by state and federal law. The Department is expected to comply with the lawful requirements of municipalities and other local, regional, and state agencies regarding discharges of stormwater to separate storm sewer systems or other watercourses under those jurisdictions.

## A4.5 Cost of Compliance

The State Water Board has considered the requirements for the Department to implement best management practices to meet the minimum "maximum extent practicable" standard required by federal law and has determined that the costs reflect this standard. The maximum extent practicable standard is an evolving, flexible, and advancing concept, which considers technical and economic feasibility. Because of the numerous advances in stormwater regulation and management and the size of the Department's municipal separate storm sewer system, this Order does not require the Department to fully incorporate and implement all advances in a single permit term; this Order takes an incremental approach that allows for ongoing prioritization and effective use of limited Department funds. The cost of complying with total maximum daily load waste load allocations is not considered since total maximum daily loads are not subject to the maximum extent practicable standard.

This Order will have an increased cost of compliance compared to the previous permit. Anticipated costs will be incurred in complying with the

post-construction and trash requirements of this Order. Additional costs may also be incurred in addressing non-compliant discharges. The incremental costs are necessary to advance the Department's management of stormwater and to facilitate reduction of the discharge of trash and pollutants to the maximum extent practicable. Costs associated with the reduction of self-monitoring may be directed towards participation in watershed and local group monitoring.

Capital expenditures and annual costs were considered for compliance with the Trash Amendments. Water Code sections 13170 and 13241, subdivision (d) require the State Water Board to consider economics when establishing water quality objectives. Economic considerations are not a cost-benefit analysis, but a consideration of potential costs of foreseeable measures to comply with the proposed Trash Amendments. An economic analysis provided in the Trash Amendments determined that the Department's expenditures were estimated to increase by $37 million in total capital costs and $15 million per year for operation and maintenance of structural controls.

Many studies have been undertaken to assess the cost of compliance with stormwater permits. Most studies have focused on municipal programs as opposed to "linear MS4s" or Departments of Transportation. A 2004 study, Alternative Approaches to Stormwater Control, by the Los Angeles Regional Water Board reported wide variability in the cost of compliance among municipal permit holders which was not easily explained.

In 1999, U.S. EPA reported on multiple studies (Cost Benefit Analysis, Federal Register, Volume 64, Number 235, Wednesday, December 8, 1999, Rules and Regulations, Section 68791) conducted to determine the cost of urban runoff management programs. A study of Phase II municipalities determined that the annual cost of the Phase II program was expected to be $9.16 per household. U.S. EPA also studied 35 medium and large Phase I municipalities, finding costs to be similar to those anticipated for Phase II small municipalities, at $9.08 per household annually.

It is difficult to precisely determine the true cost of implementation of the Department's stormwater management program as affected by this Order. Due to the extensive, distributed nature of the Department's municipal separate storm sewer system, permit requirements that involve an unknown level of implementation or that depend on environmental variables that are as yet undefined, and the difficulty in isolating program costs attributable to permit compliance, only general conclusions can be drawn from this information.

## A5 GENERAL DISCHARGE PROHIBITIONS

### A5.1 Maximum Extent Practicable

Stormwater discharges from the Department's municipal separate storm sewer system containing pollutants that have not been reduced to the maximum extent practicable are prohibited, as required by Clean Water Action section 402(p)(3)(B)(iii). See the section on Effluent Limitations, below, for more information.

### A5.2 Stormwater and Non-Stormwater Discharges into Areas of Special Biological Significance

The Water Quality Control Plan for Ocean Waters of California regulates territorial marine waters of the state for use and enjoyment by the people of the State. The Water Quality Control Plan for Ocean Waters of California includes designations for 34 coastal marine waters as Areas of Special Biological Significance, defined as a coastal area requiring protection of species or biological communities. The Department discharges into the following Areas of Special Biological Significance:

- Redwood National Park,
- Saunders Reef,
- James V. Fitzgerald,
- Año Nuevo,
- Carmel Bay,
- Point Lobos,
- Julia Pfeiffer Burns,
- Salmon Creek Coast,
- Laguna Point to Latigo Point, and
- Irvine Coast.

The Water Quality Control Plan for Ocean Waters of California prohibits stormwater discharges to Areas of Special Biological Significance unless the discharges comply with State Water Board Resolution No. 2012-0012. The Department has applied for and been granted an exception to the prohibition on the condition the Department complies with the special protections specified in the General Exception and contained in this Order.

Non-stormwater discharges to Areas of Special Biological significance are prohibited except where specifically authorized as specified in State Water Board Resolution No. 2012-0012 and section 3.9 of this Order.

This Order requires the Department to submit an updated Areas of Special Biological Significance Compliance Plan to the State Water Board Executive Director for review and consideration of approval within 12 months after the adoption date of this Order. The Department is required to install best management practices per the locations described in Table C-1, Attachment C, Stormwater Management Plan. Table C-1 lists the Department's locations where monitoring indicates that stormwater discharges exceed the Instantaneous Maximum Water Quality Objectives in Table 3 of the California Ocean Plan, or are causing or contributing to alterations of natural ocean water qualities in Areas of Special Biological Significance.

### A5.3 Non-Stormwater Discharge Prohibition and Conditionally Exempt Non-Stormwater Discharges

Non-stormwater discharges are prohibited unless authorized by a separate NPDES permit or conditionally exempt under provisions of this Order consistent with 40 C.F.R. section 122.26(d)(2)(iv)(B). Non-stormwater discharges that are not conditionally exempt by this Order are subject to the existing regulations for point source discharges. Conditionally exempt non-stormwater discharges that are found to be significant sources of pollution are to be effectively prohibited.

### A5.4 Discharge Prohibition for Violations of Water Quality Objectives and Standards

This Order prohibits discharges that cause or contribute to violations of water quality objectives or standards per State and Regional Water Boards water quality control plans, policies and applicable water quality orders.

### A5.5 Maintenance Activities, Discharge Prohibitions of Waste, and Discharge Prohibition of Earthen Material

The Regional Water Board basin plans establish reasonable protection of beneficial uses, including discharge associated with maintenance activities, prohibitions of waste, and discharge prohibition of earthen material.

### A5.6 Maintenance Activities

This Order continues the previous permit requirements for implementation of maintenance plans to reduce the discharge of wastes or wastewater from road-sweeping vehicles or other maintenance activities to waters of the United States or to a storm drainage facility leading to waters of the United States. Federal NPDES stormwater regulations (40 C.F.R. sections 122.41(e) and 122.26(d)(2)(iv)) provide the regulatory basis for incorporating provisions related to maintenance activities into this Order.

### A5.7 Discharge Prohibition of Waste

This Order prohibits the discharge of waste directly or adjacent to waters of the United States unless authorized by the State Water Board or a Regional Water Board. Waste includes "sewage and any and all other waste substances, liquid, solid, gaseous, radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal." (Water Code section 13050(d).)

### A5.8 Discharge Prohibition of Earthen Material

This Order prohibits the discharge of earthen material (e.g., landslides and mass wasting such as slumps, mud flows, and rockfalls) to receiving waters. Inadequate controls at sites subject to mass wasting and landslides may result in sediment runoff rates that greatly exceed natural erosion rates of undisturbed lands. This may result in excess siltation, bottom deposits, turbidity, discoloration, and temperature elevation, any of which may adversely affect beneficial uses stipulated in Regional Water Board Basin Plans.

## A6 EFFLUENT LIMITATIONS

Section 301(b)(1)(A) of the Clean Water Act and 40 C.F.R. section 122.44 requires that NPDES permits include technology based effluent limitations. The Clean Water Act was amended in 1987 to require that municipal stormwater dischargers "reduce the discharge of pollutants to the maximum extent practicable." (Clean Water Act section 402(p)(3)(B)(iii).) The "maximum extent practicable" standard is the applicable federal technology based standard that municipal separate storm sewer system owners and operators must attain to comply with their NPDES permits.

Maximum extent practicable is generally achieved by emphasizing pollution prevention and source control best management practices as the first lines of defense in combination with structural and treatment methods where appropriate. The maximum extent practicable approach is an ever evolving, flexible, and advancing concept, which considers technical and economic feasibility. Knowledge about controlling urban runoff and what constitutes the maximum extent practicable continues to evolve. The final determination of whether a municipality has reduced pollutants to the maximum extent practicable can only be made by the permitting agency, not by the discharger.

In State Water Board Order WQ 2000-11, the State Water Board stated that while the Clean Water Act and its implementing regulations do not define "maximum extent practicable," its use in the context of other laws indicates that the focus is "mostly on technical feasibility, but cost is also a relevant factor. There must be a

serious attempt to comply, and practical solutions may not be lightly rejected. If, from the list of [best management practices], a permittee chooses only a few of the least expensive methods, it is likely that [maximum extent practicable] has not been met. On the other hand, if a permittee employs all applicable [best management practices] except those where it can show that they are not technically feasible in the locality, or whose cost would exceed any benefit to be derived, it would have met the standard. [Maximum extent practicable] requires permittees to choose effective [best management practices], and to reject applicable [best management practices] only where other effective [best management practices] will serve the same purpose, the [best management practices] would not be technically feasible, or the cost would be prohibitive. Therefore, while cost is a factor, the Regional Water Board is not required to perform a cost-benefit analysis."

The individual and collective activities required by this Order and contained in the Department's Stormwater Management Plan meet the maximum extent practicable standard.

These effluent limitations are achieved through implementation of best management practices in lieu of numeric effluent limitations, as authorized by 40 C.F.R. section 122.44(k)(2). In 2005, the State Water Board assembled a panel to address the feasibility of including numeric effluent limits as part of NPDES municipal, industrial, and construction stormwater permits. The panel issued a report dated June 19, 2006 that included recommendations as to the feasibility of including numeric limitations in stormwater permits, how such limitations should be established, and what data should be required. The report concluded that "It is not feasible at this time to set enforceable numeric effluent criteria for municipal best management practices and urban discharges. However, it is possible to select and design them much more rigorously with respect to the physical, chemical and/or biological processes that take place within them, providing more confidence that the estimated mean concentrations of constituents in the effluents will be close to the design target." Consistent with the findings of the Panel and precedential State Water Board orders (State Water Board Orders Nos. WQ 91-03 and WQ 91-04), this Order allows the Department to implement best management practices to comply with the requirements of this Order.

## A7 RECEIVING WATER LIMITATIONS

Under federal law, a municipal separate storm sewer system permit must "require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants" (Clean Water Act section 402(p)(3)(B)(iii).) The State Water Board has previously determined that limitations necessary to comply with water quality standards are appropriate for the control of pollutants discharged by municipal separate storm sewer systems and shall be included in municipal separate storm sewer system

permits. (State Water Board Orders WQ 91-03, 98-01, 99-05, 2001-15; see also *Defenders of Wildlife v. Browner* (Ninth Circuit 1999) 191 F.3d 1159.). This Order accordingly prohibits discharges that cause or contribute to violations of water quality standards.

This Order further sets out that upon determination that the Department is causing or contributing to an exceedance of applicable water quality standards, the Department shall engage in an iterative process of proposing and implementing additional control measures to prevent or reduce the pollutants causing or contributing to the exceedance. This iterative process is modeled on receiving water limitations set out in State Water Board Order WQ 99-05 and required by that Order to be included in all municipal stormwater permits. Substantially identical provisions are found in the proposed statewide Phase II municipal separate storm sewer system NPDES permit, as well as the Phase I NPDES permits issued by the Regional Water Boards.

The Ninth Circuit held in *Natural Resources Defense Council, Inc. v. County of Los Angeles* (Ninth Circuit 2011) 673 F.3d 880 that engagement in the iterative process does not provide a safe harbor from liability for violations of permit terms prohibiting exceedances of water quality standards. The Ninth Circuit holding is consistent with the position of the State Water Board and Regional Water Boards that exceedances of water quality standards in a municipal separate storm sewer system permit constitute violations of permit terms subject to enforcement by the Boards or through a citizen suit. While the Boards have generally directed dischargers to achieve compliance by improving control measures through the iterative process, the Board retains the discretion to take other appropriate enforcement and the iterative process does not shield dischargers from citizen suits. The State Water Board reaffirmed this position in State Board Order WQ 2015-0075, stating, “we will continue to read those provisions consistent with how the courts have: engagement in the iterative process does not excuse exceedances of water quality standards.” (State Water Board Order WQ 2015-0075, p. 15.)

## A8 STANDARD PROVISIONS

Standard Provisions, which apply to all NPDES permits in accordance with 40 C.F.R. section 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 C.F.R. section 122.42, are included in this Order. The Department shall comply with all standard provisions and with those additional conditions that are applicable under section 122.42.

40 C.F.R. sections 122.41(a)(1) and (b) through (n) establish conditions that apply to all State issued NPDES permits. These conditions shall be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations shall be included in the Order.
40 C.F.R. section 123.25(a)(12) allows the state to omit or modify conditions to impose more stringent requirements. In accordance with 40 C.F.R. section 123.25,

this Order omits federal conditions that address enforcement authority specified in 40 C.F.R. sections 122.41(j)(5) and (k)(2) because the enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates by reference Water Code section 13387(e).

## A9 PERMIT-SPECIFIC PROVISIONS

The following sections discuss the rationale and regulations for permit-specific provisions.

### A9.1 Stormwater Management Plan

Per the requirements of the previous permit, the Department submitted a stormwater management plan that was approved in July 2016. This Order requires the Department to submit an updated Stormwater Management Plan for a 30-day public review period and for subsequent consideration of approval by the State Water Board Executive Director. The Stormwater Management Plan is the Department's mechanism to describe the procedures and practices that the Department will implement to reduce or eliminate the discharge of pollutants to receiving waters.

In ruling upon the adequacy of federal regulations for discharges from small municipal storm sewer systems, the court in Environmental Defense Center versus U.S. EPA (9th Circuit, 2003) 344 F.3d 832 held that NPDES "notices of intent" that required the inclusion of a proposed stormwater management program are subject to public participation requirements of the federal Clean Water Act. The public participation requirements of the Clean Water Act may also apply to proposals to revise the Department's Stormwater Management Plan. This Order provides for public participation in the Stormwater Management Plan revision process by requiring public notifications of the updated Stormwater Management Plan for 30 days on the State Water Board's website. During the public notice period, a member of the public may submit a written comment or request that a public hearing be conducted. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. Upon review of the request or requests for a public hearing, the Executive Director may, in his or her discretion, schedule a public hearing to take place before approval of the Stormwater Management Plan revision. The Executive Director shall schedule a hearing if there is a significant degree of public interest in the proposed revision. If no public hearing is conducted, the Executive Director may approve the Stormwater Management Plan revision if it complies with the conditions set forth in this Order. Any Stormwater Management Plan revision approved by the Executive Director will be posted on the State Water Board's SMARTS website.

The Department references various policies, manuals, and other guidance related to stormwater management in the Stormwater Management Plan. These documents are intended to facilitate implementation of the Stormwater Management Plan and shall be consistent with all requirements of this Order.

## A9.2 General Requirements of the Stormwater Management Plan

This Order requires the Department to implement its stormwater management plan as developed to comply with the previous permit and as required by the federal NPDES stormwater regulations (40 C.F.R. section 122.26(d)). The Department shall update its stormwater management plan as necessary to comply with this Order. The Department's compliance with its stormwater management plan is enforceable as the Plan is an integral part of this Order.

## A9.3 Elements of the Stormwater Management Plan

The rationale for the stormwater management plan requirement and required elements of the plan is provided below.

### *A9.3.1 Overview*

The Stormwater Management Plan consolidates all the Department's compliance programs, requirements, procedures, standard forms, and references into one document. The Stormwater Management Plan provides the process for the selection, design, installation, inspection, and maintenance of stormwater best management practices to reduce pollutants in stormwater discharges to the maximum extent practicable. Federal NPDES stormwater regulations (40 C.F.R. section 122.26(d)(2)(iv)) require the development of a stormwater management plan.

### *A9.3.2 Management and Organization*

#### A9.3.2.1 Legal Authority

This Order requires an annual certification of adequate legal authority to implement the stormwater management program and a description of the existing legal authority to control discharges to the Department's municipal separate storm sewer system (40 C.F.R. section 122.26(d)(2)(i)). If it becomes clear that the legal authority is not adequate to fully implement the stormwater management program and the requirements of this Order, the Department shall seek the authority necessary for implementation of the program.

Adequate legal authority is required to implement and enforce most parts of the stormwater management program. Without adequate legal authority

the Department would be unable to perform many vital stormwater management functions, such as performing inspections and installing best management practices.

A9.3.2.2 Fiscal Analysis

This Order requires the Department to include a description of financial resources to comply with this Order. Federal NPDES regulations (40 C.F.R. section 122.26(d)(1)(vi)) require stormwater dischargers to include a description of financial resources currently available to implement the stormwater management plan, including an overview of financial resources and budget and sources of funds for stormwater programs.

*A9.3.3 Pollution Prevention Program for Construction Activities*

A9.3.3.1 Statewide or Lake Tahoe Construction Stormwater General Permits

The Department's construction activities that disturb one or more acres of land are subject to the requirements of the State Water Board Statewide NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities and General Waste Discharge Requirements, NPDES Permit No. CAS000002 (Construction Stormwater General Permit) throughout the state except in the Lahontan region. In the Lahontan region, the Department is subject to the Lahontan Regional Water Board's NPDES General Permit for Stormwater Discharges Associated with Construction Activity in the Lake Tahoe Hydrologic Unit, Counties of Alpine, El Dorado, and Placer, NPDES Permit No. CAG616002 (Lake Tahoe Construction Stormwater General Permit).

A9.3.3.2 Lead-Contaminated Soil

The Department's construction projects may involve soils that contain lead in quantities that meet the state definition of hazardous waste but not the federal definition. The Department of Toxic Substances Control issued variance V09HQSCD006 effective July 1, 2009, allowing the Department to place soil containing specific concentrations of aerially deposited lead under pavement or clean soil. For purposes of the variance, lead-contaminated soil means soil that meets the criteria for hazardous waste but contains less than 3,397 milligrams per kilogram total lead and is hazardous primarily because of aerially deposited lead contamination associated with exhaust emissions from the operation of motor vehicles. Hazardous waste that is the subject of this variance is regulated under Health and Safety Code, section 25100, et seq. and California Code of

Regulations, title 22, division 4.5 except as specifically identified in the variance.

A9.3.3.3 Stockpiles of Portland Cement Concrete and Asphalt Concrete Grindings

Leachate generated through stormwater contact with pavement grinding stockpiles (i.e., portland cement concrete and asphalt concrete grindings) has the potential to discharge pollutants to the Department's storm sewer system. Leachate may have typical pollutants found on highways, in asphalt, and in portland cement, such as polycyclic aromatic hydrocarbons, heavy metals, sediment, and high pH. A technical report, Leaching Characteristics of Recycled Asphalt Pavement, addressing these pollutants was issued by the Virginia Department of Transportation in December 2006. This Order requires best management practices to prevent the formation and discharge of leachate to the Departments storm sewer system to the maximum extent practicable.

A9.3.3.4 Contractor Compliance

This Order requires the Department to ensure its contractors comply with the applicable requirements of this Order and regulatory coverage is obtained under the Construction Stormwater General Permit and Lake Tahoe Construction Stormwater General Permit, as required.

A9.3.3.5 Environmentally Friendly Best Management Practices

This Order continues the previous permit's requirements for environmentally friendly erosion control best management practices. Use of synthetic and plastic materials is prohibited through the Standard Condition in Streambed Alteration Agreements by the California Department of Fish and Game.

While erosion control best management practices are typically used on construction sites, some are used as permanent, post-construction best management practices. Typical erosion control best management practices involve use of straw or fiber rolls and mats. These rolls and mats are often held together by synthetic mesh or netting. Synthetic materials are persistent in the environment and have been found to be a source of pollutants, trash, and an entrapment hazard to wildlife. A relevant article, Versatility in Control, was published in the Erosion Control Journal in November to December 2009. For erosion control products used as permanent, post-construction best management practices, this Order requires the use of biodegradable materials, and the removal of any temporary erosion control products containing synthetic materials when they are no longer needed. Biodegradable materials are required in

erosion control products used by the Departments of Transportation in the states of Delaware and Iowa.

*A9.3.4 Statewide General Permit for Stormwater Discharges Associated with Industrial Activities*

This Order requires the Department to file a Notice of Intent for coverage under the General Permit for Storm Water Discharges Associated with Industrial Activities, Order NPDES NO. CAS000001 (Industrial Stormwater General Permit) for industrial facilities.

This Order requires that discharge of pollutants from facilities not covered by the Industrial General Permit be reduced to the maximum extent practicable through the appropriate implementation of best management practices.

Facilities and operations outside the Department's right of way may support various Department activities. Facilities may include concrete or asphalt batch plants, staging areas, concrete slurry processing, or other material recycling operations, equipment and material storage yards, material borrow areas, and access roads. Facilities may be operated by the Department or by a third party. This Order requires the Department to include provisions in its contracts that require the contractor to obtain and comply with applicable permits for facilities and operations outside the Department's right-of-way when these facilities are active for the primary purpose of accommodating Department activities.

*A9.3.5 Maintenance and Operations*

A9.3.5.1 Maintenance and Non-Maintenance Facilities Pollution Prevention Plans

The Department's maintenance and non-maintenance facilities have the potential to discharge pollutants to the Department's storm sewer system. Federal NPDES stormwater regulations (40 C.F.R. 112.26(d)(2)(iv)(A)) requires a description of methods to control pollution. This Order requires the Department to implement source control measures for its facilities through implementation of a pollution prevention plan.

A9.3.5.2 Maintenance Facility Inspection Program Plan

Federal NPDES stormwater regulations (40 C.F.R. 122.26(d)(2)(iv)(A)) requires maintenance procedures to reduce pollutant in discharges to storm sewer systems.

A9.3.5.3 Highway Maintenance Activities

Federal NPDES stormwater regulations (40 C.F.R section 122.26(d)(2)(iv)(A)(3)) require a description of the practices for operating and maintaining public streets, roads, and highways and procedures for reducing the impact on receiving waters of discharges from municipal storm sewer systems, including pollutants discharged as a result of deicing activities. This Order carries over the previous permit's requirements for highway maintenance activities procedures. This Order requires the Department to operate and maintain its highway systems to reduce impact on receiving waters.

A9.3.5.4 Runoff Management

This Order continues the previous permit requirement for procedures on runoff management. In the 1999 Preliminary Data Summary of Urban Stormwater Best Management Practices, Chapter 4, U.S. EPA reports that stormwater runoff is a leading source of pollutants causing water quality impairment in ocean shoreline waters, is the second leading cause of water quality impairment in estuaries, and is a significant source of impairment in rivers and lakes. The report lists three major categories of adverse impacts: (1) short-term changes in water quality during and after storm events including temporary increases in the concentration of one or more pollutants, toxics or bacteria levels; (2) long-term water quality impacts caused by the cumulative effects associated with repeated stormwater discharges from a number of sources; (3) physical impacts due to erosion, scour, and deposition associated with increased frequency and volume of runoff that alters aquatic habitat.

A9.3.5.5 Vegetation Control Plan

Federal NPDES stormwater regulations (40 C.F.R. section 122.26(d)(2)(iv)(A*)(6)*) require a program to reduce to the maximum extent practicable pollutants in discharges associated with the application of pesticides, herbicides, and fertilizers. This Order requires the Department to develop and implement a vegetation management plan and to limit, track, and report the use of herbicides, pesticides, and chemicals.

A9.3.5.6 Waste Management Plans

To comply with the prohibition of waste discharged to receiving waters (described above in section A5.7), this Order requires the Department to develop and implement procedures to prevent such discharges of waste.

A9.3.5.7 Landslide Management Plan

This Order continues the previous permit requirement for plans to prevent discharge of earthen material to receiving water. Portions of the Department's highway system are prone to mass wasting (e.g., landslides, slumps, and mud flows of earthen material), which may result in the discharge of earthen material to receiving waters. Discharge of earthen material may cause adverse effects on beneficial uses, such as fish and spawning habitat. Discharge of earthen material is prohibited.

A9.3.5.8 Contractor Activities Outsides the Right-of-Way

This Order continues the previous permit requirement to include contract provisions that require the contractor to obtain regulatory coverage and comply with applicable permits for project-related facilities and operations outside the Department's right-of-way. Facilities may include concrete or asphalt batch plants, staging areas, concrete slurry processing, other material recycling operations, equipment and material storage yards, material borrow areas, and access roads.

A9.3.5.9 Asset Management Plan

This Order requires the Department to maintain and improve its existing asset management plan to ensure ongoing installation, maintenance, and operation of its assets. Clean Water Act requires that NPDES permits include requirements to develop and implement operation and maintenance procedures and financial plans sufficient to ensure their future operational integrity to comply with permit discharge conditions. The Department is required to implement proper operation and maintenance at all facilities, as referenced in 40 C.F.R. section 122.41(e). U.S. EPA has encouraged stormwater, drinking water, and wastewater utilities to develop and implement asset management plan tools to provide the tracking and planning framework needed to meet these requirements. U.S. EPA has also encouraged water utilities to use modern analytical planning tools to support deployment of greener, more sustainable, better integrated water infrastructure improvements to help implement NPDES permit requirements.

*A9.3.6 Non-Departmental Activities*

This Order continues the previous permit requirements for oversight of non-Departmental projects and activities. The Department's responsibility includes oversight of construction projects or other activities conducted by a third party within the Department's right-of-way. The Department is responsible for runoff from all non-Department projects and activities in its right-of-way unless a separate permit is issued to the other entity. At times,

local municipalities or private developers may undertake construction projects or other activities within the Department's right-of-way. The Department may exercise control or oversight over these third-party projects or activities through encroachment permits or other means.

*A9.3.7 Non-Stormwater Discharges*

A9.3.7.1 Spills, Illegal Connections, Illicit Discharge, and Illegal Dumping

U.S. EPA defines non-stormwater discharges (40 C.F.R. 122.26(b)(2)) as dry weather flows that do not originate from precipitation events. Non-stormwater discharges are illicit discharges and are prohibited by federal regulation (40 C.F.R. section 122.26(d)(2)(iv)(B)(1)) unless exempted or separately permitted. This Order requires the Department to develop and implement procedures for all non-stormwater discharges, including spills, illegal connections, illicit discharge, and dumping. This Order requires that the Department include procedures for response to report of illicit discharges.

A9.3.7.2 Agricultural Return Flows

U.S. EPA regulations (40 C.F.R section 122.26(b)(2)) conditionally exempt municipal separate storm sewer systems from the requirement to prohibit "irrigation water" discharges to the municipal storm sewer system. The term "irrigation water" is not defined and the regulations do not clarify whether that term is intended to encompass agricultural return flows that may run on to the Department's right-of-way. Because agricultural return flows cannot be regulated by an NPDES permit (40 C.F.R section 122.3(f)), it is unlikely that they were intended to be treated as "illicit discharges" under the federal municipal separate storm sewer system regulations.

In discussing illicit non-stormwater discharges and the requirement to effectively prohibit such discharges, the preamble of the Phase I final regulations states: "The CWA prohibits the point source discharge of non-stormwater not subject to an NPDES permit through municipal separate storm sewers to waters of the United States. Thus, classifying such discharges as illicit properly identifies such discharges as being illegal." (55 Federal Register 47996) (emphasis added). Implicit in this statement is that illicit discharges do not include non-point source discharges, including agricultural return flows, which are statutorily excluded from the definition of a point source discharge (33 United States Code 1362(14)).13 United States Code section 1342(l)(1) states that an NPDES permitting agency "shall not require a permit under this section for discharges composed entirely of return flows from irrigated agriculture." Accordingly,

agricultural return flows co-mingling with an illicit discharge would be treated as a point source discharge. This fact, however, does not lead the State Water Board to find that agricultural return flows should be subject to the conditional prohibition on non-stormwater discharges. First, the illicit discharge prohibition acts to prevent non-stormwater discharges "into the storm sewers." (33 United States Code section 1342(p)(3)(B)(ii)) (emphasis added). Based on a plain reading of the statutory language, a determination of what constitutes an illicit discharge should be made with reference to the nature of the discharge as it enters the municipal separate storm sewer system. Unless the agricultural return flow has co-mingled with a point source discharge prior to entering the municipal separate storm sewer system, it is not subject to the discharge prohibition. Further, since certain point source discharges are conditionally exempted from the requirement for effective prohibition under 40 C.F.R section 122.26(d)(2)(iv)(B)(1), the fact that the agricultural return flow may have co-mingled with such an exempted dry weather point source discharge prior to entering the municipal separate storm sewer system does not render it an illicit discharge subject to the effective prohibition. See Fishermen Against the Destruction of the Environment, Inc. *v.* Closter Farms, Inc. (Eleventh Circuit 2002) 300 F.3d 1294.

Second, even assuming that the agricultural return flow mingling with a point source discharge after entering the municipal separate storm sewer system would trigger the requirements related to non-stormwater discharges, agricultural return flows are not expected to require an effective prohibition. Irrigation of agricultural fields typically occurs in dry weather, not wet weather, and therefore the State Water Board anticipates that irrigation return flows into the Department's municipal separate storm sewer system would generally not co-mingle with discharges other than exempt non-stormwater discharges. Further, agricultural return flows entering a municipal separate storm sewer system, while not regulated by an NPDES permit, are through much of the State regulated under WDRs, waivers, and Basin Plan prohibitions. The regulations exempt municipal separate storm sewer systems from addressing non-stormwater discharges that are regulated by an NPDES permit. Flows to the Department's municipal separate storm sewer system regulated through state-law based permits are subject to regulatory oversight analogous to being subject to an NPDES permit. The appropriate regulatory mechanism for these discharges is the non-point source regulatory programs and not a municipal stormwater permit.

*A9.3.8 Training Program*

This Order continues the previous permit requirements for an operator training program. Federal NPDES stormwater regulations (40 C.F.R. section 22.26(d)(2)(iv)(D)(4)) require appropriate educational and training measures for construction site operators.

*A9.3.9 Public Education and Outreach*

This Order continues the previous permit requirements for public education and outreach. Federal NPDES stormwater regulations require the development and implementation of a public education and outreach program (40 C.F.R. section 122.26(d)(2)(iv)(B)(6)) that includes a description of educational activities and public information activities in the stormwater management program.

*A9.3.10 Post-Construction Requirements*

This Order generally continues the previous permit post-construction requirements. Federal NPDES stormwater regulations (40 C.F.R. section 122.26(d)(2)(iv)(A)(2)) require municipal stormwater permittees to implement a new development and redevelopment program to reduce the post-construction generation and transport of pollutants. This Order requires the Department to implement post-construction requirements.

- Department projects have the potential to negatively impact stream channels and downstream receiving waters through modification of the existing runoff hydrograph. The hydromodification requirements of the Order are “effluent limitations” as defined by 33 United States Code 1362(11).
- Waters of the United States supporting beneficial use of fish migration could be adversely impacted by improperly designed or maintained stream crossings, or through natural channel evolution processes affected by Department activities. This Order requires the Department to submit to the State Water Board the annual report required under section 156.1 of the California Streets and Highways Code reporting on the Department’s progress in locating, assessing, and remediating barriers to fish passage.
- This Order also emphasizes low impact development, a sustainable practice that benefits water supply and contributes to water quality protection. Unlike traditional stormwater management, which collects and conveys stormwater runoff through storm drains, pipes, or other conveyances to a centralized stormwater facility, low impact

development uses site design and stormwater management to maintain the site's pre-project runoff rates and volumes by infiltrating, filtering, storing, evaporating, and detaining runoff close to the source.

On October 5, 2000, the State Water Board adopted a precedential decision concerning the use of Standard Urban Stormwater Mitigation Plans related to new development and redevelopment (Order WQ 2000-11). The Standard Urban Stormwater Mitigation Plan in that case included a list of best management practices and design standards for post-construction best management practices for specific categories of new development and redevelopment projects. The numeric design standard created objective and measurable criteria for runoff that must be treated or infiltrated by best management practices.

While this Order does not regulate construction activities, this Order does regulate the post-construction stormwater runoff pursuant to municipal stormwater regulations. Standard Urban Stormwater Mitigation Plans are addressed in this Order through the numeric sizing criteria that apply to treatment best management practices at specified new and redevelopment projects and through requirements to implement low impact development through principles of source control, site design, and stormwater treatment and infiltration. The low impact development requirements, post-construction requirements for impervious surfaces, and the design standards in this Order are consistent with the previous permit and comply with the requirement for the development of a Standard Urban Stormwater Mitigation Plan. The Order also provides the Department with an alternative compliance method for complying with the numeric sizing criteria for projects where on-site treatment is infeasible, discussed later in this Fact Sheet.

Attachment C of this Order (Stormwater Management Plan requirements) specifies a decrease in the previous permit post-construction requirement trigger for redevelopment projects that create new impervious surface area - from a 1-acre trigger to a 10,000 square feet trigger. This threshold value and corresponding requirements are equivalent to standards established in other state permits for post-construction stormwater requirements that apply to transportation projects. Similarly, the State Water Board's statewide NPDES Phase II Municipal Separate Storm Sewer System Order requires a threshold of 5,000 square feet for all development projects that create or replace new impervious surface for public road projects. Furthermore, the Phase I Municipal Separate Storm Sewer System Permits issued by the Regional Water Boards have much smaller threshold values for post-construction treatment requirement threshold values as listed below:

- North Coast Regional Water Board threshold: 5,000 square feet,

- Central Coast Regional Water Board threshold: 2,500 square feet,
- Los Angeles Regional Water Board threshold: 5,000 to 10,000 square feet,
- Central Valley Regional Water Board threshold: 5,000 square feet,
- Santa Ana Regional Water Board threshold: 5,000 square feet, and
- San Diego Regional Water Board threshold: 10,000 square feet.

In addition, the San Francisco Bay Municipal Regional Stormwater Permit, Order R2-2015-0049, requires a threshold of 5,000 square feet for new and redevelopment projects that create or replace impervious surface areas and road projects that replace existing impervious surface areas.

A9.3.10.1 Post-Construction Planning and Treatment Requirements

In accordance with the Clean Water Act, municipal stormwater permits must require controls to reduce the discharge of pollutants to the maximum extent practicable. Further, in Order WQ 2000-11, the State Water Board considered Standard Urban Storm Water Mitigation Plans as a planning means to control runoff to the maximum extent practicable for construction and post-construction. These plans include a list of best management practices for specific development categories and a numeric design standard for structural or treatment control best management practices. While a Standard Urban Storm Water Mitigation Plan is not required, this Order does require the Department to plan, develop, and implement best management practices for post-construction planning.

A9.3.10.2 Site Design Pollution Prevention Best Management Practices

This Order generally continues the site design pollution prevention best management practices requirements from the previous permit by using a sustainable practice that benefits water supply and contributes to water quality protection. In January 2005, the State Water Board passed Resolution 2005-0006 declaring sustainability of water and environmental resources a core value and directed staff to consider sustainability in all future policies, guidelines, and regulatory actions. This was further expanded by State Water Board Resolution 2008-0030, which directed Water Board staff to promote and prioritize stormwater management techniques to maintain or restore natural hydrologic functions by detaining water on site, filtering out pollutants, and facilitating infiltration of water into the ground.

A9.3.10.3 Post-Construction Long-Term Operation and Maintenance Plans

This Order continues the requirements for post-construction operation and maintenance plans from the previous permit. Federal NPDES stormwater regulations (40 C.F.R section 122.26(d)(2)(iv)) require dischargers to develop and implement a program for post-construction discharges from all new development and redevelopment projects, which will ensure long-term operation and maintenance of these controls.

A9.3.10.4 Design Criteria for Redevelopment Projects

This Order continues sustainability criteria from the previous permit. On January 20, 2005, State Water Board adopted sustainability as a core value for all Water Boards' activities and programs and directed State Water Board staff to consider sustainability in all future policies, guidelines, and regulatory actions. Sustainability can be achieved through appropriate implementation of the low impact development techniques required by this Order.

The requirements of this Order facilitate the implementation of low impact development strategies to protect water quality, reduce runoff volume, and to promote sustainability. The proper implementation of low impact development techniques results in water quality protection benefits and a reduction of land development and construction costs, enhances property values, and improves habitat, aesthetic amenities, and quality of life. Properly implemented low impact development techniques reduce the volume of runoff leaving a newly developed or redeveloped area, which lowers the peak rate of runoff. Thus, the adverse effects of hydromodification on stream habitat is minimized.

Unlike traditional stormwater management, which collects and conveys stormwater runoff through storm drains, pipes, or other conveyances to a centralized stormwater facility, low impact development takes a different approach by using site design and stormwater management to maintain the site's pre-development runoff rates and volumes. The goal of low impact development is to mimic a site's pre-development hydrology by using design techniques that infiltrate, filter, store, evaporate, and detain runoff close to the source of rainfall. low impact development has been a proven approach in other parts of the country and is seen in California as an alternative to conventional stormwater management.

Low impact development is a tool that can be used to better manage natural resources and limit the pollution delivered to waterways. To achieve optimal benefits, Low impact development needs to be integrated with watershed planning and appropriate land use programs. Low impact development by itself will not deliver all the water quality outcomes

desired; however, it does provide enhanced stormwater treatment and mitigates increased volume and flow rates.

The requirements of this Order approach low impact development through source control design principles, site design principles and stormwater treatment and infiltration principles. Source control and site design principles are required as applicable to provide enough flexibility such that projects are not forced to include inappropriate or impractical measures. Not all the stormwater treatment and infiltration principles identified in this Order are required to be implemented but are listed in order of preference with the most environmentally protective and effective alternatives listed first.

A9.3.10.5 Alternative Compliance

This Order provides an alternative method for complying with the numeric sizing criteria for projects where on-site treatment is infeasible. Under the alternative method, the Department may propose complying with the requirements of this Order and treating pollutants from the Department's right of way by: (1) installing and maintaining equivalent treatment best management practices at a location outside of Project Limits and within the watershed, or (2) contributing funds to achieve the treatment of pollutants from the Department's right of way, at a regional project within the watershed. This compliance method will provide the Department flexibility in complying the treatment control requirements for pollutants from its facilities.

A9.3.10.6 Hydromodification

The Department's development and redevelopment projects have the potential to negatively impact stream channels and downstream receiving waters through modification of the existing runoff hydrograph. The potential impacts of hydromodification by Department projects shall be assessed in the project planning and design stage, and measures shall be taken to mitigate them.

The hydromodification requirements in this Order are "effluent limitations," which are defined by the Clean Water Act to include any restriction on the quantities, rates, and concentrations of chemical, physical, biological, and other constituents which are discharged from point sources.

The hydromodification requirements in this Order are based on established Federal Highway Administration procedures for assessing stream stability at highway crossings. These procedures are geomorphic-based and have historically been used to inform bridge and culvert design and to ensure that these structures are not impacted by decreased lateral

and vertical stability. Assessing Stream Channel Stability at Bridges in Physiographic Regions was published by the Federal Highway Administration in July 2006. Maintaining lateral and vertical stability will not only protect highway structures but will serve the broader interest of maintaining stable stream form and function.

*A9.3.11 Stream Crossing Design Guidelines*

This Order requires compliance with Article 3.5 of the California Streets and Highways Code. This requirement is continued from the previous permit. Article 3.5 of the Streets and Highways Code requires the Department to assess and remediate barriers to passage of anadromous fish at stream crossings along the state highway system. The Department is also required to prepare an annual report to the legislature on the status of the Department's efforts in locating, assessing, and remediating barriers to fish passage.

*A9.3.12 Climate Change Impacts*

On September 18, 2007, State Water Board adopted Resolution No. 2007-0059 which identified initial actions for climate change response. Water Boards are committed to careful consideration of climate change strategies to further our ability to preserve, enhance, restore the quality of California's water resources, and to ensure their proper allocation and efficient use for the benefit of present and future generations. On March 7, 2017, the State Water Board adopted Resolution 2017-0012, which requires identification of vulnerabilities due to climate changes impacts and identifies the need to modify permit requirements to reduce the vulnerability of water and wastewater infrastructure to flooding, storm surge, and sea level rise. The Resolution encourages all State Water Board and Regional Water Board staff to consider requiring the protection of coastal infrastructure, such as stormwater treatment best management practices, from sea level rise in permits and other Board decisions. This Order requires the Department to comply with climate change requirements in the update and implementation of its Stormwater Management Plan.

*A9.3.13 Storm Sewer Mapping*

The previous permit did not require storm sewer mapping; however, the Department does maintain storm sewer maps. This Order requires the Department to continue with its electronic sewer mapping, and to provide data layers with best management practices survey coordinates (e.g., geographic information system coordinates), type of best management practices, and significant design criteria (e.g., flow capacity, pollutant) to the State Water Board.

*A9.3.14 Measurable Objectives*

This Order continues the previous permit requirement for the Department to annually evaluate the effectiveness and adequacy of the stormwater program, which includes an annual self-audit of the stormwater management program. The audit is intended to determine the effectiveness of the stormwater and non-stormwater programs through the evaluation of factors and program components.

## A9.4 Statewide Trash Provision Requirements

Statewide Trash Provisions

In 2015, the State Water Board adopted Resolution 2015-0019 amending the Water Quality Control Plan for Ocean Waters of California, and Part 1 of the Water Quality Control Plans for Inland Surface Waters, Enclosed Bays, and Estuaries of California to include statewide provisions for the control of trash, which are hereinafter referred to as the Trash Provisions. The Trash Provisions, which became effective December 2, 2015, include provisions to control trash statewide, and a statewide prohibition on the discharge or the deposition of trash to waters of the State.

The Trash Provisions require the Department to comply with the prohibition of trash discharge by installing, operating, and maintaining any combination of full capture systems, multi-benefit projects, other treatment controls, and/or institutional controls for all storm drains that capture runoff from significant trash generating areas. Where full capture systems are not installed, the Department shall demonstrate that such combinations achieve full capture system equivalency. Additionally, the Department and other municipal separate storm sewer system permittees that are subject to the Trash Provisions shall coordinate their efforts to install, operate, and maintain full capture systems, multi-benefit projects, other treatment controls, and/or institutional controls in significant trash generating areas and priority land uses.

Trash requirements subject to the Trash Provisions are provided in Attachment E of this Order. The Department is required to demonstrate full compliance with the Trash Provisions by no later than December 2, 2030, and to comply with trash reduction milestones in this Order.

The Department's Ongoing Trash Compliance Activities

The San Francisco Bay Regional Water Board adopted Cease and Desist Order R2-2019-0007 on February 13, 2019, requiring the Department to control trash from 8,800 acres of right-of-way by June 30, 2026, and from all significant trash generating areas by December 3, 2030. This Order does not alter the enforceability or effectiveness of the Cease and Desist Order.

This Order additionally does not take the place of any provisions or any Regional Water Board Cease and Desist Order, including Cease and Desist Order R2-2019-0007.

The Los Angeles Water Board adopted 15 trash TMDLs initiating with the Ballona Creek and Los Angeles River watersheds in the early 2000s. Since 2007, the Los Angeles Water Board implements their trash TMDLs through municipal separate storm sewer system permits, requiring capture of ≥5-millimeter particles from 1-year, 1-hour storms within the urbanized watersheds. The trash TMDLs include compliance strategies to achieve waste load allocations, which include the use of devices in storm drains or catch basins to collect trash.

Installation of full capture trash devices has decreased trash in the Los Angeles River Watershed. Progress has been made through the implementation of trash TMDLs in municipal stormwater permits. The Los Angeles Water Board reports that trash controls are fully implemented for most affected watersheds.

This Order implements the Los Angeles Water Board trash TMDLs where the Department is listed as a responsible party. The Los Angles Water Board trash TMDL requirements are provided in Attachment D of this Order. The Trash Provisions explicitly do not apply to the areas addressed by these TMDLs. The Department is named as a responsible party in the trash TMDLs for Los Angeles River; Ballona Creek; Los Angeles Area Lakes, Peck Road Park Lake; Los Angeles Area Lakes, Echo Park Lake; Los Angeles Area Lakes, Legg Lake; Machado Lake; Malibu Creek Watershed; Revolon Slough and Beardsley Wash; Santa Monica Bay Nearshore and Offshore; and Ventura River Estuary trash TMDLs.

Water Code section 13383 Order Dated June 1, 2017

On June 1, 2017, the State Water Board issued a Water Code section 13383 Order (13383 Order) which required the Department to submit a Trash Implementation Plan. In response, the Department submitted a Trash Implementation Plan in 2018 that reported 19,983 acres of significant trash generating areas within its right-of-way. The Department submitted a revised Statewide Trash Implementation Plan in 2019, in which the Department reported a revised area of 16,445 acres of significant trash generating areas within its right of way.

The State Water Board Executive Officer did not approve the Department's revised Statewide Trash Implementation Plan because significant trash generating areas identified in the revised Plan excluded:

- The Department's right-of-way within the San Francisco Bay Region, which is subject to a Cease and Desist Order that imposes requirements consistent with the Trash Provisions, and
- Segments of Department right-of-way subject to Trash TMDLs in the Los Angeles Region, which are not subject to the Trash Provisions.

This Order requires the Department to comply with Attachment E, Trash Implementation Requirements, and with Attachment D, TMDL Requirements.

The Department's Trash Implementation Plan provides an overview of its trash assessment methodology. The Department determined that approximately 6,000 of its 15,000 highway miles are located in urbanized areas (undefined). The Department then conducted a "desktop analysis" that reduced the number of highway miles subject to visual trash assessment to approximately 500 miles. The Department conducted visual trash assessment on the 500 miles based, partially, on the Bay Area Stormwater Management Agencies Association on-site visual trash assessment protocol. This protocol was sponsored by the State Water Board by a grant to Bay Area Stormwater Management Agencies Association. This protocol provides a proven and reliable method of determining trash generation rates within permitted municipal separate storm sewer systems and is already being used in the San Francisco Bay Regional Water Board's Phase I municipal permit. Although not specifically developed for the Department's right-of-way, the protocol may serve as a foundation for the Department's visual trash assessment for its right of-way within permitted municipal separate storm sewer systems.

The Department's "desktop analysis" applied seven data sources in determining areas within its right-of-way eligible for visual trash assessment. These data sources were placed in an algorithmic model for analysis. In general, none of the data sources appear to be strong indicators of trash generation at specific locations, nor did the Department provide supporting literature or citations that support using these data sources to determine significant trash generating areas.

Two of the data sources used in the Department's "desktop analysis" are inconsistent with the Trash Provisions, as described below:

1. The Department's Trash Implementation Plan data source for urbanized areas excludes urbanized areas with populations of less than 50,000. As a result, approximately 175 permitted municipal separate storm sewer systems with a population under 50,000 that are regulated under the statewide Phase II Small Municipal Permit, and an unknown number of permitted municipal separate storm sewer systems under the various Phase I Large Municipal Permits were excluded. Although the Trash

Provisions do not define urbanized areas, the Trash Provisions apply to all permitted municipal separate storm sewer systems. With the exception of municipal separate storm sewer systems that are designated for permit coverage, Federal regulations require urbanized areas with populations of 10,000 or more to be permitted. Urbanized areas are defined by the United States Census Bureau. There is no basis to exclude urbanized areas with populations of less than 50,000 from the Department's trash assessment.

2. The Department's Trash Implementation Plan data source for traffic volume excluded highway segments without "high traffic volume." The definition of "high traffic volume" is not provided. As a result, highways with low traffic volume, which would more likely be located in highways within urbanized areas with populations of 50,000 or more were excluded from this data source. The Trash Provisions do not include a reference to traffic volume, and the Department presented no supporting documentation that relates to traffic volume and significant trash generating areas.

3. The Department's Trash Implementation Plan excludes its right of way at locations in the San Juaquin valley where its stormwater -are discharged to permitted municipal separate storm sewer systems The Trash Provisions require each permitted municipal separate storm sewer systems to reduce its own trash discharges independent of whether downgradient permitted municipal separate storm sewer systems may be implemented trash reduction measures that are capable of treating the Department's trash discharges

Trash Assessment Methodology Plan

To demonstrate compliance with this Order, this Order requires the Department to develop and submit a Trash Assessment Methodology Plan to the State Water Board Executive Director for review and consideration of approval. The Trash Assessment Methodology Plan must provide a systematic approach in determining the Department's significant trash generating areas that accumulate trash in substantial amounts, to demonstrate annual trash reduction, and to determine full capture equivalency as required by the Trash Provisions.

The Trash Provisions require the Department to develop a trash assessment methodology that is technically acceptable and defensible. The Department's current "desktop analysis" resulted in no significant trash generating areas within urbanized areas with populations less than 50,000, no significant trash generating areas identified in entire and/or partial highway corridors within urbanized areas with populations greater than 50,000 (i.e., Interstate 210), and numerous highway segments omitted from

a highway corridor identified as significant trash generating areas. This Order requires the Department to utilize a Trash Capture Rate approach for its right-of way within permitted municipal separate storm sewer systems. The approach may either utilize the protocol developed by the Bay Area Stormwater Management Agencies Association or an equivalent alternative. This Order requires the Department to further refine its “desktop analysis” used to determine significant trash generating areas in areas of its right-of way outside of permitted municipal separate storm sewer systems.

As discussed above, the Department’s Trash Implementation Plan excludes its right of way at locations in the San Joaquin valley where its stormwater - are discharged to permitted municipal separate storm sewer systems. The Department shall identify significant trash generating areas within its right-of way that discharge to permitted municipal separate storm sewer systems. However, the Department may exclude implementing trash reduction measures for its discharges to permitted municipal separate storm sewer systems under the condition that it receives written confirmation from the permitted municipal separate storm sewer systems that the Department’s trash discharge is accepted and will not impact the permitted municipal separate storm sewer systems ability to comply with the Trash Provisions.

Trash Assessment Methodology Within Municipal Systems

The intent of the Trash Provisions is to ensure that the Department identifies and treats all areas within its jurisdiction where trash accumulates in substantial amounts. This Order specifically requires the Department to include within its Trash Assessment Methodology an assessment of all highway segments and highway on- and off-ramps within permitted municipal separate storm sewer systems. This requirement ensures that these locations are identified, assessed to determine the presence of substantial trash accumulation, and included for trash treatment control when necessary.

The Trash Provisions preface the list of the Department’s four defined areas where trash may accumulate in substantial amounts with a "such as," which means the list does not exclude other areas within the Department’s jurisdiction that generate substantial trash. In addition, the Trash Provisions allow the permitting authority (i.e., the State Water Board) to determine additional specific land uses or locations that may generate substantial trash. This Order is exercising this authority to require the Department to revise its unapproved revised Trash Assessment Methodology for the following reasons:

1. The Trash Provisions define the Department’s significant trash generating areas as those highways and highway on- and off-ramps in Priority Land Uses. Priority Land Uses only located within the jurisdiction

of a municipal separate storm sewer system permittees are the responsibility of the municipal separate storm sewer system permittees. With some exceptions, the Department's highways are generally not 'in' these Priority Land Uses (but may be near or in the vicinity).

2. The Department's highways are generally isolated via barriers and/or grading from the Priority Land Uses. Unlike an urban street, there is little transfer of trash from the Priority Land Uses to the highway. Trash accumulation on most of the Department's highways is substantially generated from highway users. These users consist of commercial vehicles, local and regional commuters, and other local and long-distance travelers.
3. Studies pertaining to the Los Angeles Regional Water Board's TMDLs demonstrate that trash is present in substantial amounts throughout the highway system within municipal separate storm sewer systems without regard to near-by priority land uses, population densities or traffic volumes.
4. The San Francisco Regional Water Board required the Department to assess its entire highway system in the Bay Area. The assessment found that trash is present in substantial amounts throughout the highway system within the jurisdiction of the municipal separate storm sewer systems without regard to near-by priority land uses, population densities or traffic volumes.
5. Based upon the studies above, trash generally accumulates on the Department’s highway segments within municipal separate storm sewer systems without a direct relationship with nearby Priority Land Uses, population, or traffic volumes.
6. In response to the Water Board's 13383 order, the Department’s Trash Implementation Plan included visual trash assessment of its highways in only urbanized areas with populations greater than 50,000. This visual assessment indicated that trash is present in substantial amounts at a significant majority of the Department’s highway system within permitted municipal separate storm sewer systems with populations greater than 50,000. However, many of the Department’s highway segments that may generate a substantial amount of trash were omitted from visual assessment based on population and traffic volume. The Trash Provisions do not limit the determination of significant trash generation areas based on population or high traffic volume unless the Department provides technically acceptable and defensible assumptions.
7. Requiring the Department to visually assess all highways and on- and off-ramps within permitted municipal separate storm sewer systems does not impose a substantial burden on the Department. If the visual

assessment demonstrates that no substantial amounts of trash are generated in these areas, the Department is not required to include these areas when conducting trash migration efforts.

8. Identifying all Department locations within permitted municipal separate storm sewer systems that generate substantial trash, will complement coordination efforts by the Department and municipal separate storm sewer system permittees to install, operate, and maintain trash treatment controls.

The Trash Provisions require the Department to report whether trash in the receiving waters has decreased from the previous year. This Order does not stipulate receiving water monitoring, however, instead requires the Department to report any receiving water monitoring that it may voluntarily conduct. As discussed above, receiving water monitoring is unlikely to demonstrate the Department's compliance with this Order as the Department is generally one of many sources of trash in any watershed.

Full Capture System Equivalency

In accordance with the Trash Provisions, this Order requires the Department to demonstrate full capture system equivalency. Full capture system equivalency is the trash load that would have been reduced if full capture systems were installed, operated, and maintained for all storm drains that capture runoff from the Department's right-of-way identified as significant trash generating areas. Full capture system equivalency is a trash load reduction target that the Department quantifies by using an approach, and technically acceptable and defensible and defensible assumptions and methods for applying the approach, subject to the approval of the State Water Board Executive Director. The full capture system equivalency approach shall be included in the Department's trash assessment methodology plan.

## A9.5 Monitoring Requirements

Clean Water Act section 308 and 40 C.F.R. sections 122.41(h), 122.41(j)-(l), 122.449(i), and 122.48 require that all NPDES permits specify monitoring and reporting requirements. Water Code section 13383 authorizes the State Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. Attachment F, Monitoring Requirements, establishes monitoring requirements that implement federal and State laws and regulations.

This Order includes monitoring requirements in accordance with the federal Sufficiently Sensitive Methods Rule, requiring NPDES permittees to use analytical test methods with minimum levels that are at least as sensitive as

effluent limitations or action levels in accordance with applicable permit requirements and corresponding best management practices. The Sufficiently Sensitive Methods requirements are in accordance with 40 C.F.R. sections 122.41(j)(4) and 122.44(i)(1)(iv).

State Water Board Order 2012-0011-DWQ included discharge characterization monitoring requirements at priority discharge locations for stormwater discharges from the Department's right-of-way to Areas of Special Biological Significance. Monitoring requirements of Order 2012-0011-DWQ also included characterization monitoring of untreated runoff to determine whether the Department's stormwater discharges to any Areas of Special Biological Significance can cause or contribute to any exceedances of natural ocean water quality. The Department has fulfilled its monitoring requirements for stormwater discharges to the Areas of Special Biological Significance specified in Order 2012-0011-DWQ.

## A9.6 Reporting Requirements

Clean Water Act section 308 and 40 C.F.R. sections 122.41(h), 122.41(j)-(l), 122.44(i), and 122.48 require that all NPDES permits specify monitoring and reporting requirements. Water Code section 13383 authorizes the State Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. Attachment G, Summary of Reporting Requirements, summarizes the reporting, and recordkeeping requirements in this Order that implement federal and State laws and regulations.

The electronic reporting requirements in this Order are based on U.S. EPA's NPDES Electronic Reporting Rule (40 C.F.R. section 127). The Rule requires electronic reporting in lieu of paper-based reporting. On April 30, 2019, U.S. EPA's NPDES Electronic Reporting Rule was updated to include electronic reporting consistent with municipal separate storm sewer system regulations. This Order implements the Rule similar to other NPDES permittees regulated by the State and Regional Water Boards.

## A9.7 Total Maximum Daily Loads

Clean Water Act section 303(d) requires States to identify waters that do not comply with water quality standards after applying certain required technology-based effluent limits (impaired water bodies). States are required to compile this information in a list and submit the list to U.S. EPA for review and approval. This list is known as the section 303(d) list of impaired waters.

As part of the 303(d)-listing process, States are required to prioritize waters/watersheds for future development of TMDLs. A TMDL is defined as

the sum of the individual waste load allocations for point sources of pollution, the load allocations for nonpoint sources of pollution, the contribution from background sources of pollution, and a margin of safety. The State and Regional Water Boards monitor and assess water quality, to prepare the section 303(d) list, and to subsequently develop TMDLs. TMDLs are developed by either the Regional Water Boards or U.S. EPA in response to section 303(d) listings. TMDLs developed by Regional Water Boards include implementation provisions and can be incorporated as Water Quality Control Plan amendments. TMDLs developed by U.S. EPA typically contain the total waste load and load allocations required by section 303(d), but do not contain comprehensive implementation provisions.

The Department is subject to TMDLs in the North Coast, San Francisco Bay, Central Coast, Los Angeles, Central Valley, Lahontan, Colorado River, Santa Ana, and San Diego Regions. The applicable TMDLs assign mass-based or concentration-based waste load allocations and load allocations for constituents contributing to water body impairments in specific regions; however, in some cases the TMDLs do not assign allocations specific to the Department, nor do the TMDLs specify the portion of the Department's contribution to the impairment.

During the implementation of the previous permit (Order 2012-0011-DWQ), the Department prioritized all reaches in the 84 TMDLs watersheds for which the Department had responsibility for implementation of source control measures and best management practices. Since the previous permit was adopted, four more TMDLs were adopted by the Regional Water Boards or were established by the U.S. EPA, with which the Department has the responsibilities to comply. This Order also requires the Department to update its existing TMDL Reach Prioritization List to include the four new TMDLs, as described in Attachment D. The four new TMDLs include the Los Angeles Water Board's San Gabriel River, Estuary and Tributaries Indicator Bacteria TMDL; the San Francisco Bay Water Board's Pescadero-Butano Watershed Fine Sediment TMDL; the San Francisco Bay Water Board's Petaluma River Bacteria TMDL; and the San Diego Water Board's Los Penasquitos Lagoon Sediment TMDL.

The previous permit implemented a "compliance unit" process to track the Department's implementation of treatment of TMDL pollutants. The previous permit required the Department to earn 1,650 compliance unit credits per year. One compliance unit was awarded to the Department for: (1) every acre of right-of-way treated for TMDL pollutants through the implementation of best management practices, or (2) every $88,000 contributed to cooperative implementation projects. Due to the amount of acreage to be treated and the limitations of the Department's budget, the State Water

Board provided the Department up to 2034 to earn all the compliance units required, and to comply with all the applicable TMDLs.

During the development of this Order, the State Water Board and the Department determined that it was appropriate to require the Department to directly demonstrate compliance with applicable waste load and load allocations without a secondary tracking process; therefore this Order does not continue the "compliance unit" process of the previous permit. Direct demonstration of compliance with TMDL requirements ensures that the Department's budget for implementing best management practices in TMDL areas is spent for projects that address the Department's TMDL obligations.

Some TMDLs that are applicable to the Department have established compliance deadlines that have passed or will pass in the near future. The Department may need more time to demonstrate compliance with applicable waste load and load allocations. The State Water Board therefore adopted Time Schedule Order 202X-XXXX-DWQ, providing the Department until December 31, 2034 to demonstrate compliance with 62 TMDLs in which the Department cannot, or may not, comply by the corresponding TMDL-specific deadline. Providing the Department with a time schedule order is consistent with the previous permit determination that an extended time schedule is appropriate for the Department to come into compliance with waste load and load allocations. Additionally, in Order WQ 2015-0075, the State Water Board's concluded that time schedules for TMDLs that extend beyond their established TMDL-specific compliance deadlines should be implemented through time schedule orders rather than permits.

This Order (Attachment D) and Time Schedule Order 202X-XXXX-DWQ requires the Department to submit a TMDL Compliance that addresses compliance measures the Department will implement to comply with its portion of applicable waste load and load allocations, per interim and final compliance dates.

### *A9.7.1 Total Maximum Daily Load Implementation Requirements and Pollutant Categories*

This Order implements existing TMDLs through TMDL implementation requirements in accordance with 40 C.F.R. section 122.44(d)(1)(vii)(B), requiring NPDES permit to include effluent limitations that are consistent with the assumptions and requirements of applicable waste load. Implementation requirements are not limited to the maximum extent practicable standard. In addition, Water Code section 13263(a) requires that waste discharge requirements implement any relevant Basin Plans, including existing TMDLs.

Effluent limitations for NPDES-regulated stormwater discharges that implement waste load allocations in TMDLs may be expressed in the form of best management practices. (33 United State Code section 1342(p)(3)(B)(iii); 40 C.F.R. section 122.44(k)(2)-(3).). Where effluent limitations are expressed as best management practices, the permit administrative record, including its Fact Sheet should demonstrate that the required implementation of best management practices will be sufficient for the permittee to comply with the waste load allocations.

U.S. EPA issued a November 22, 2002 memorandum titled, *Establishing TMDL Waste Load Allocations for Stormwater Sources and NPDES Permit Requirements*, and a corresponding update on November 26, 2014. Through its memorandum, the U.S. EPA states that permitting authorities have flexibility with the implementation of waste load allocations in stormwater permits including best management practices or numeric effluent limitations. The updated memorandum stressed the importance of clear, specific, and measurable effluent limits and recommended that when feasible, numeric effluent limits be used. (40 C.F.R. sections 124.8, 124.9 and 124.18.)

NPDES permits must also specify the monitoring necessary to determine compliance with permit limitations. (40 C.F.R. section 122.44(i).) Where effluent limitations are specified as best management practices, the permit should also specify the monitoring necessary to assess if the expected load reductions attributed to best management practice implementation are achieved (e.g., best management practice performance data). The permit should additionally provide a mechanism to adjust the required best management practices as necessary to ensure their adequate performance.

As the sole discharger in this Order and as the owner and operator of the statewide highway transportation system that spans across the entire state, the Department's responsibility to comply with TMDLs administered by nine Regional Water Boards poses a unique permitting challenge. Many of the TMDLs are designed to address the same pollutants causing impairment, and progress in achievement of the waste load allocations for these pollutant categories requires implementation of similar control measures coupled with monitoring and adaptive management. Each pollutant category has associated best management practices. The pollutant categories are as follows:

- Sediment/nutrients/mercury/silt/turbidity
- Metals/toxic pollutants/pesticides
- Trash
- Bacteria
- Diazinon

- Selenium
- Temperature
- Chloride

Tables D-1, D-2, and D-3 in Attachment D of this Order list all the TMDLs applicable to the Department.

*A9.7.2 Cooperative Implementation Agreements*

The Department participates in cooperative implementation agreements with other agencies/parties to implement projects that result in joint compliance with TMDLs. In most instances, the agreements address a watershed approach to compliance, and the Department's participation is through contributing project funding. This Order allows the Department to comply with its TMDL obligations, through cooperative projects that treat the Department's right of way for TMDL-specific pollutants, and areas outside of the right of way that run-on TMDL-specific pollutants onto the Department's right of way.

*A9.7.3 Table of Total Maximum Daily Loads by Regional Water Board and Pollutant*

Table 1, below, lists each TMDL applicable to the Department by water body, pollutant, and the date that the TMDL was either established or approved by U.S. EPA.

**Table A-1. Total Maximum Daily Loads by Region, Water Body, Pollutant, and Date**

| Water Bodies | Pollutant | U.S. EPA Approved/Established |
|---|---|---|
| **North Coast Region** | | |
| Albion River | Sediment | December 31, 2001 |
| Big River | Sediment | December 31, 2001 |
| Eel River, Lower Fork | Temperature and sediment | December 16, 2007 |
| Eel River, Middle Fork | Temperature and Sediment | December 31, 2003 |
| Eel River, South Fork | Sediment and temperature | December 16, 1999 |
| Eel River, Upper Main and Tributaries (including Tomki Creek, Outlet Creek and Lake Pillsbury) | Sediment and temperature | December 29, 2004 |
| Garcia River | Sediment | March 7, 2002 |
| Gualala River | Sediment | December 31, 2001 |
| Klamath River | Temperature, dissolved oxygen, nutrient, and microcystin | December 28, 2010 |

| Water Bodies | Pollutant | U.S. EPA Approved/Established |
|---|---|---|
| Lost River | Nitrogen and biochemical oxygen demand | December 30, 2008 |
| Mad River | Sediment and turbidity | December 21, 2007 |
| Navarro River | Temperature and sediment | December 31, 2000 |
| Noyo River | Sediment | December 16, 1999 |
| Redwood Creek | Sediment | December 30, 1998 |
| Scott River | Sediment and temperature | August 09, 2006 |
| Shasta River | Dissolved oxygen and temperature | January 26, 2007 |
| Ten Mile River | Sediment | December 31, 2000 |
| Trinity River | Sediment | December 20, 2001 |
| South Fork Trinity River and Hayfork Creek | Sediment | December 31, 1998 |
| Van Duzen River and Yager Creek | Sediment | December 16, 1999 |
| **San Francisco Bay Region** | | |
| Guadalupe River | Mercury | June 1, 2010 |
| Napa River | Sediment | January 20, 2011 |
| Richardson Bay | Pathogens | December 18, 2009 |
| San Francisco Bay | Polychlorinated biphenyls | March 29, 2010 |
| San Francisco Bay | Mercury | February 12, 2008 |
| San Pedro and Pacifica State | Bacteria | August 1, 2013 |
| San Francisco Bay Urban Creeks | Diazinon and pesticide-related toxicity | May 21, 2007 |
| Sonoma Creek | Sediment | September 8, 2010 |
| Petaluma River | Fecal indicator bacteria | May 10, 2021 |
| Pescadero-Butano Watershed | Sediment | May 21, 2019 |
| **Central Coast Region** | | |
| San Lorenzo River (includes Carbonera Lompico, Shingle Mill Creeks) | Sediment | February 19, 2004 |
| Morro Bay (includes Chorro Creek, Los Osos Creek, and the Morro Bay Estuary) | Sediment | January 20, 2004 |

| Water Bodies | Pollutant | U.S. EPA Approved/Established |
|---|---|---|
| **Los Angeles Region** | | |
| Ballona Creek | Metals (silver, cadmium, copper, lead, and zinc) | December 22, 2005; reaffirmed October 29, 2008; revised October 26, 2015 |
| Ballona Creek | Trash | June 30, 2016 |
| Ballona Creek Estuary | Toxic pollutants (silver, cadmium, copper, lead, zinc, chlordane, dichlorodiphenyltrichloroethane, total polychlorinated biphenyls, and total polycyclic aromatic hydrocarbons) | December 22, 2005 |
| Ballona Creek, Ballona Estuary, and Sepulveda Channel | Bacteria | April 27, 2007 |
| Ballona Creek Wetlands | Sediment and Invasive exotic vegetation | March 26, 2012 |
| Calleguas Creek and its Tributaries and Mugu Lagoon | Metals and selenium | June 9, 2017 |
| Calleguas Creek and its Tributaries and Mugu Lagoon | Organochlorine pesticides, polychlorinated biphenyls, and siltation | March 14, 2006 |
| Colorado Lagoon | Organochlorine pesticides, polychlorinated biphenyls, sediment toxicity, polycyclic aromatic hydrocarbons, and metals | June 14, 2011 |
| Dominguez Channel, Greater Los Angeles, and Long Beach Harbor Waters | Toxic pollutants: metals (copper, lead, zinc), polychlorinated biphenyls dichlorodiphenyltrichloroethane, polycyclic aromatic hydrocarbons | March 23, 2012 |
| Legg Lake | Trash | February 27, 2008 |
| Long Beach City Beaches and Los Angeles and Long Beach Harbor Waters | Indicator bacteria | March 26, 2012 |

| Water Bodies | Pollutant | U.S. EPA Approved/Established |
|---|---|---|
| Los Angeles Area Lakes, Echo Park Lake | Nitrogen, phosphorus, chlordane, dieldrin, polychlorinated biphenyls, and trash | March 26, 2012 |
| Los Angeles Area Lakes, Lake Sherwood | Mercury | March 26, 2012 |
| Los Angeles Area Lakes, North, Center, and Legg Lakes | Nitrogen and phosphorus | March 26, 2012 |
| Los Angeles Area Lakes, Peck Road Park Lake | Nitrogen, phosphorus, chlordane, dichlorodiphenyltrichloroethane, dieldrin, polychlorinated biphenyls, and trash | March 26, 2012 |
| Los Angeles Area Lakes, Puddingstone Reservoir | Nitrogen, phosphorus, Chlordane, dichlorodiphenyltrichloroethane, polychlorinated biphenyls, mercury, and dieldrin | March 20, 2012 |
| Los Angeles River and Tributaries | Metals | December 12, 2016 |
| Los Angeles River | Trash | August 1, 2002 |
| Los Angeles River Watershed | Bacteria | March 23, 2012 |
| Los Cerritos | Metals | March 17, 2010 |
| Machado Lake | Pesticides and polychlorinated Biphenyls | March 20, 2012 |
| Machado Lake | Trash | February 27, 2008 |
| Machado Lake | Eutrophic, algae, ammonia, and odors | March 11, 2009 |
| Malibu Creek Watershed | Bacteria | January 10, 2006 |
| Malibu Creek and Lagoon | Sedimentation and nutrients to address benthic community impairments | July 2, 2013 |
| Malibu Creek Watershed | Trash | July 2, 2014 |
| Marina del Rey Harbor | Toxic pollutants | March 16, 2006 |
| Marina del Rey, Harbor Back Basins, Mothers' Beach | Bacteria | March 18, 2014 |

| Water Bodies | Pollutant | U.S. EPA Approved/Established |
|---|---|---|
| Revolon Slough and Beardsley Wash | Trash | February 27, 2008 |
| San Gabriel River | Metals (copper, lead, and zinc) and selenium | March 26, 2007 |
| San Gabriel River, Estuary, and Tributaries | Bacteria | June 14, 2016 |
| Santa Clara River Estuary and Reaches 3, 5, 6, and 7 | Coliform | January 19, 2012 |
| Santa Clara River Reach 3 | Chloride | June 18, 2003 |
| Santa Monica Bay | Dichlorodiphenyltrichloroethane and polychlorinated biphenyls | March 26, 2012 |
| Santa Monica Bay Nearshore and Offshore | Debris (trash and plastic pellets) | March 20, 2012 |
| Santa Monica Bay Beaches | Bacteria | July 2, 2014 |
| Upper Santa Clara River | Chloride | June 18, 2003 |
| Ventura River Estuary | Trash | February 27, 2008 |
| Ventura River and its Tributaries | Algae, eutrophic conditions, and nutrients | June 28, 2013 |
| **Central Valley Region** | | |
| Cache Creek, Bear Creek, Sulphur Creek, and Harley Gulch | Mercury | February 7, 2007 |
| Clear Lake | Nutrients | September 21, 2007 |
| Sacramento – San Joaquin Delta | Methylmercury | October 20, 2011 |
| **Lahontan Region** | | |
| Lake Tahoe | Sediment and nutrients | August 16, 2011 |
| Truckee River | Sediment | September 16, 2009 |
| **Colorado River Region** | | |
| Coachella Valley Stormwater Channel | Bacterial indicators | April 27, 2012 |
| **Santa Ana Region** | | |
| Big Bear Lake | Nutrients for hydrological Conditions | September 25, 2007 |
| Lake Elsinore and Canyon Lake | Nutrients | September 30, 2005 |

| Water Bodies | Pollutant | U.S. EPA Approved/Established |
|---|---|---|
| Rhine Channel Area of the Lower Newport Bay | Chromium and mercury | June 14, 2002 |
| San Diego Creek | Metals (Cadmium, copper, lead, and zinc) | June 14, 2002 |
| Newport Bay | Copper, lead, and zinc | June 14, 2002 |
| Upper Newport Bay | Cadmium | June 14, 2002 |
| San Diego Creek Watershed | Organochlorine compounds (dichlorodiphenyltrichloroethane, chlordane, polychlorinated biphenyls, and toxaphene) | November 12, 2013 |
| Upper and Lower Newport Bay | Organochlorine Compounds (dichlorodiphenyltrichloroethane, chlordane, and polychlorinated biphenyls) | November 12, 2013 |
| **San Diego Region** | | |
| Chollas Creek | Diazinon | November 3, 2003 |
| Chollas Creek | Dissolved copper, lead, and zinc | December 18, 2008 |
| Los Peñasquitos Lagoon | Sediment | October 30, 2014 |
| Rainbow Creek | Total nitrogen and total phosphorus | March 22, 2006 |
| Project I - Twenty Beaches and Creeks in the San Diego Region, Including Tecolote Creek, Revised Total Maximum Daily Loads | Indicator Bacteria | June 22, 2011 |

*A9.7.4 Pollutant Category—Sediment/Nutrients/Mercury/Silt/Turbidity Total Maximum Daily Load*

This section provides summaries of the TMDLs applicable to the Department. The summaries are grouped first by pollutant category and second by Regional Water Board.

Note that many of the TMDLs identify the waste load or load allocations for a category of pollutant sources, but do not identify allocations specific for the Department; therefore, some TMDLs, as described below, contain waste load allocations for a group of dischargers.

***General Description of Pollutant Category**:* Excessive sediment loads have resulted in the non-attainment of water quality objectives for sediment,

suspended material, settleable material, mercury, nutrients, and turbidity in numerous receiving waters.

***Sources of Pollutant and How Pollutants Enter the Waterway****:* Natural sediment sources include geologically unstable areas that are subject to landslides, as well as smaller sediment sources such as gullies and stream-bank failures. Road-related sediment sources include construction of paved and unpaved roadways, watercourse-crossing road related activities, landslides, failing cut-banks, hydromodification, and unpaved roads. Turbidity occurs when fine sediment, referred to as silt, is suspended in a water column.

Sources of nutrients include wastewater treatment plants, septic systems, erosion and sediment, and runoff from confined and grazing animal facilities, agriculture, urban areas, timber harvesting, gravel mining, and fires.

Sources of mercury include gold and mercury mines, naturally mercury enriched soils, atmospheric deposition, and improper disposal of man-made items such as batteries and dental amalgam that contain mercury. As of 2010, more than 180 water bodies in California are designated as impaired by mercury, and fish in these waters can have mercury concentrations that pose a health risk for humans and wildlife that eat the fish, including threatened and endangered species.

***Department's Watershed Contribution:*** The Department's facilities include culverts, stream crossings, road cuts, paved roadways, and unpaved right-of-way areas that are adjacent to potentially erodible areas and paved roads under construction and reconstruction

***Control Measures.*** The Department is required to continue implementing erosion and sediment controls at its facilities as identified in its best management practice program for control of pollutants and any applicable region-specific total maximum daily load requirements as discussed below.

A9.7.4.1 North Coast Water Board Sediment Total Maximum Daily Loads

Sediment TMDLs identify pollutant loads and load allocations, which in the North Coast Region typically include allocations to such sources as timber harvest, skid trails, roads, agriculture, and natural background. TMDLs use the best available information to construct source analyses, loading capacities, and assign waste load and load allocations to individual source categories. North Coast Water Board TMDLs are implemented either under Action Plans or Policies adopted by the Regional Water Quality Control Board as amendments to the Water Quality Control Plan for the North Coast Region (Basin Plan). Action Plans and Policies are amended into the Basin Plan through Resolutions of the North Coast Water Board.

The TMDL Action Plans, Sediment TMDL Implementation Policy, and related Resolutions and workplans, contain the key implementation directives for sediment discharge control in the North Coast Region, as described below.

Resolution R1-2004-0087, Total Maximum Daily Load Implementation Policy Statement for Sediment-Impaired Receiving Waters in the North Coast Region requires the use of NPDES permits and waste discharge requirements to achieve compliance with sediment-related water quality standards in all waterbodies, including all impaired waterbodies. It also directs the North Coast Water Board Executive Officer to develop a Sediment Workplan for sediment TMDL implementation and to rely on the use of all available authorities, including existing regulatory standards and permitting and enforcement tools, to more effectively and efficaciously pursue compliance with sediment-related standards by all dischargers of sediment waste.

A Sediment Workplan was completed on April 8, 2008.
Resolution No. R1-2008-0057, Regarding the Regional Water Board Staff Work Plan to Control Excess Sediment In Sediment Impaired Watersheds, finds that the Sediment Workplan describes thirty-five regional tasks and watershed-specific tasks tailored to each of the 27 sediment impaired North Coast watersheds, including TMDLs developed by U.S. EPA. Regional tasks include improving the Department's stormwater management plan to address excess sediment through minimization and control measures, including: (1) the inventory, prioritization, scheduling, control/fix/repair, monitoring, and adaptive management of existing excess sediment; (2) the identification and implementation of sediment control practices that will prevent and minimize future excess sediment to the maximum extent possible; (3) monitoring; and (4) adaptive management. The Basin Plan for the North Coast Region contains specific TMDL Action Plans for certain watersheds, which are consistent with the direction provided in the Sediment TMDL Implementation Policy.

More specifically, TMDLs include identification of sediment sources, calculations, loading capacity, and load allocations. The purpose of each TMDL is to identify the amount of sediment (total load) that can be delivered to the river without causing exceedance of water quality standards and to allocate the total load among the identified sources. Roads represent a significant source category for sediment pollution in the North Coast Region. The current load estimates, load allocations, and percent reductions shown in Table A-2, below, and reiterated in Attachment D are based on information contained in the adopted TMDLs, watershed areas, and the Department's right-of-way areas within watersheds.

The North Coast Water Board Water Quality Control Plan has the following narrative water quality objectives, described below, which apply to sediment-related discharges to receiving waterbodies.

**Sediment Related Discharge Narrative Water Quality Objectives**

| Parameter | Water Quality Objectives |
|---|---|
| Suspended Material | Waters shall not contain suspended material in concentrations that cause nuisance or adversely affects beneficial uses. |
| Settleable Material | Waters shall not contain substances in concentrations that result in deposition of material that causes nuisance or adversely affect beneficial uses. |
| Sediment | The suspended sediment load and suspended sediment discharge rate of surface water shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses. |
| Turbidity | Turbidity shall not be increased more than 20 percent above naturally occurring background levels. Allowable zones of dilution within which higher percentages can be tolerated may be defined for specific discharges upon the issuance of discharge permits or waiver thereof. |

This Order incorporates the requirements of the North Coast Water Board Sediment Workplan through sediment control measures, monitoring, and reporting.

In Table A-2, the sediment load estimates, load allocations, and percent reductions are based on information contained in the adopted total maximum daily loads. The TMDLs adopted by U.S. EPA that contain load allocations for road sources did not separately identify waste load allocations for the Department's NPDES-regulated contributions. Instead, the Department's contributions are included in the load allocations. The Department must address its portion of those load allocations as it would a waste load allocation assigned to the Department specifically. To account for the paved nature specific to Department highways, where surface erosion was incorporated into the road source category, the road surface erosion was removed from current sediment loads and load allocations. In certain TMDLs, non-road source categories were aggregated with road source categories. In these cases, staff used information in the TMDL source analyses with best professional judgement to assign only non-surface erosion road source categories to the Department. The North

Coast Water Board staff calculated the watershed area, and the Department provided its right-of-way areas for each TMDL watershed.

The Department's sediment load reduction is shown in the table, below, which was calculated by the North Coast Water Board staff. Further details and rational for the following Department-specific allocations are further discussed in this section.

Sediment Load Reduction = Existing Load – Load Allocation

**Table A-2. Department-Specific Sediment Loads in the North Coast Water Board Region**

| TMDL Name | Existing Load (tons per year) | Load Allocation (tons per year) | Reduction Needed (%) | Sediment Load Reduction (tons per year) |
|---|---|---|---|---|
| Albion River | 7 | 2 | 74 | 5 |
| Big River | 193 | 44 | 77 | 149 |
| Eel River, Upper Main | 137 | 68 | 50 | 68 |
| Eel River, Middle Fork | 147 | 105 | 28 | 41 |
| Eel River, Lower Main | 354 | 74 | 79 | 280 |
| Eel River, South Fork | 18,027 | 4,871 | 73 | 13,157 |
| Garcia River | 251 | 100 | 60 | 150 |
| Gualala River | 171 | 21 | 88 | 150 |
| Mad River | 6,811 | 770 | 89 | 6,042 |
| Navarro River | 2,868 | 1,364 | 52 | 1,504 |
| Noyo River | 116 | 33 | 71 | 83 |
| Redwood Creek | 5,337 | 856 | 84 | 4,481 |
| Scott River | 153 | 67 | 57 | 87 |
| Ten Mile River | 5 | 1 | 76 | 4 |
| Trinity River | 10,254 | 2,461 | 76 | 7,793 |
| Trinity River, South Fork | 1,983 | 358 | 82 | 1,625 |
| Van Duzen River | 447 | 68 | 85 | 379 |

The sediment load allocations are calculated as follows and as shown in Table A-3:

**Department Sediment Load Allocation (tons per year)**

**= [(Watershed Road Sediment Load Allocation} M*inus* (Road Surface Erosion (tons/square mile/year))]**

***Times***

**[(State Highway Length) / (Total Road Length) *Times* (Watershed Area (square miles))]**

State Highway lengths were determined from Department-provided global information system (GIS) map layers. Watershed area was determined by the North Coast Water Board staff using its GIS layers. Watershed total road lengths were calculated using: (1) road density listed in a TMDL or TMDL reference document; and (2) watershed area calculated using GIS for watershed described in a TMDL. See Table A-3, below, for the Department sediment load allocations.

**Table A-3. Calculations of Sediment Load Allocations (tons per year)**

| Watershed | Watershed Area (square miles) | Road Density (mi/es per square mile) | Total Road Length (miles) | State Highway Length (miles) | Ratio of State Highway Length to Total Road Length (percent) | Watershed Road Sediment Load less Road Surface Erosion (tons per square mile per year) | Department Sediment Load (tons/year) | Watershed Road Sediment Load Allocation Less Road Surface Erosion (tons per square mile per year) | Department Sediment Load Allocation (tons per year) | Department Load Reduction Responsibility (tons per year) |
|---|---|---|---|---|---|---|---|---|---|---|
| Albion River | 43 | 8.5 | 365.5 | 0.36 | 0.10% | 170 | 7.2 | 44 | 1.9 | 5.3 |
| Big River | 181 | 6.9 | 1248.9 | 15.04 | 1.21% | 88 | 191.8 | 20 | 43.4 | 148.4 |
| Eel River, Upper Main | 708 | 7.1 | 5026.8 | 45.92 | 0.92% | 21 | 135.8 | 11 | 70.9 | 64.9 |
| Eel River, Middle Fork | 753 | 7.1 | 5346.3 | 19.17 | 0.36% | 54 | 145.8 | 39 | 105.7 | 40.1 |
| Eel River, Lower Main | 300 | 5.8 | 1740 | 47.46 | 2.75% | 43 | 351.9 | 9 | 73.7 | 278.1 |
| Eel River, South Fork | 689 | 3.6 | 2480.4 | 115.60 | 4.69% | 559 | 17950.1 | 151 | 4848.2 | 13101.9 |
| Garcia River | 114 | 5.5 | 627 | 2.70 | 0.43% | 509 | 249.9 | 204 | 100 | 149.9 |
| Gualala River | 299 | 4.8 | 1435.2 | 1.44 | 0.10% | 570 | 171 | 69 | 20.6 | 150.4 |
| Mad River | 494 | 4.2 | 2074.8 | 22.04 | 1.06% | 1298 | 6811.4 | 147 | 769.8 | 6041.7 |
| Navarro River | 316 | 6.6 | 2085.6 | 51.15 | 2.45% | 370 | 2867.5 | 176 | 1362.6 | 1504.9 |
| Noyo River | 113 | 6.8 | 768.4 | 10.16 | 1.34% | 77 | 115 | 22 | 32.8 | 82.2 |
| Redwood Creek | 282 | 5.4 | 1522.8 | 22.55 | 1.48% | 1278 | 5336.8 | 205 | 855.6 | 4481.2 |
| Scott River | 814 | 6.2 | 5046.8 | 41.33 | 0.82% | 23 | 153.3 | 10 | 66.7 | 86.6 |
| Ten Mile River | 120 | 7.9 | 948 | 0.95 | 0.10% | 38 | 4.6 | 9 | 1.1 | 3.5 |
| Trinity River | 1896 | 4.9 | 9290.4 | 159.51 | 1.72% | 315 | 10254.2 | 76 | 2478.5 | 7775.8 |
| Trinity River, South Fork | 931 | 3.3 | 3072.3 | 52.99 | 1.75% | 122 | 1959 | 22 | 352.3 | 1606.7 |
| Van Duzen River | 428 | 5.5 | 2354 | 46.58 | 1.98% | 53 | 448.9 | 8 | 67.8 | 381.1 |

*A9.7.4.1.1 Albion River Sediment Total Maximum Daily Load*

***Description:*** U.S. EPA established the Albion River TMDL for Sediment because the river exceeds sediment water quality standards. Excessive sediment has contributed to the decline of anadromous salmonid species in Albion River.

The TMDL includes identification of sediment pollutant sources, calculations, river loading capacity, and waste load and load allocations. The purpose of the TMDL is to identify the amount of sediment that can be delivered to the river without causing exceedance of water quality standards and to allocate the total load among the identified sources.

***Final* Waste *Load Allocations:***

The TMDL for the Albion River and its tributaries is 412 tons per mile square per year. The load allocation for road surface erosion is 4 percent (16 tons per mile square per year) and for landslides associated with roads is 11 percent (45 tons per mile square per year). Five percent of the watershed roads are paved. The miles of State-owed paved highways are not defined.

***Contribution Specific to the Department:*** The TMDL does not include Department-specific allocations nor proportionate contributions. On August 8, 2020, North Coast Water Board staff provided Department-specific sediment load allocations, which are listed in Table A-2 of this Attachment.

***Final Compliance Deadline:*** On December 31, 2001, U.S. EPA established the TMDL. An implementation schedule was not included; therefore, the final compliance deadline was December 31, 2001.

*A9.7.4.1.2 Big River Sediment Total Maximum Daily Load*

***Description:*** In December 2001, U.S. EPA established the Big River TMDL for Sediment because the North Coast Water Board identified Big River as impaired due to sediment. The purpose of this TMDL is to: 1) identify the total sediment load that can be delivered to the Big River and its tributaries without causing exceedance of water quality standards, and 2) allocate the total load among the sources of sediment in the watershed.

***Final Waste Load Allocations:*** U.S. EPA set the TMDL for Big River and its tributaries equal to 393 tons per mile square per year, which is the sum of nonpoint sources plus background. The load allocation for all roads is 20 tons per square mile per year.

***Contribution Specific to the Department:*** The TMDL does not provide a proportioned waste load or load allocation specific to the Department. On August 8, 2020, North Coast Water Board staff provided Department-

specific sediment load allocations, which are listed in Table A-2 of this Attachment.

***Final Compliance Deadline:*** U.S. EPA established the TMDL on December 31, 2001. An implementation schedule was not included; therefore, the final compliance deadline was December 31, 2001.

*A9.7.4.1.3 South Fork Eel River Sediment Total Maximum Daily Load*

***Description:*** The Water Boards identified the South Fork Eel River as impaired due to sediment. Subsequently, U.S. EPA established the South Fork Eel River TMDL for Sediment on December 16, 1999 and identified the maximum allowable sediment that the stream can receive and remain in attainment with water quality standards. The primary water quality concern is protection of aquatic life due to the decline of native cold-water fish populations, such as Coho salmon, Chinook salmon, and steelhead.

***Final Waste Load Allocations:*** U.S. EPA states there are no significant individual point sources of sediment discharge into this watershed. The TMDL includes load allocations for various sediment discharge sources and provides a load allocation for all roads of 33 tons per square mile per year.

***Contribution Specific to the Department:*** Waste load allocations and proportional contributions specific to the Department are not specified in this TMDL On August 8, 2020, North Coast Water Board staff provided Department-specific sediment load allocations, which are listed in Table A-2 of this Attachment.

***Final Compliance Deadline:*** U.S. EPA established this TMDL on December 16, 1999. An implementation schedule was not included; therefore, the final compliance deadline was December 16, 1999.

*A9.7.4.1.4 Lower Eel River Sediment Total Maximum Daily Load*

***Description:*** U.S. EPA established the Lower Eel River TMDLs for Sediment because the Water Boards determined that the water quality standards are not met due to excessive sediment. It was established on December 18, 2007. The TMDL's primary purpose is to assure that beneficial uses of aquatic life and habitat (such as salmonid habitat) are protected from elevated levels of sediment.

The TMDL sediment source analysis for this watershed concludes that current sediment loading (based on average year rates between 1955 – 2003) is 208 percent of natural loading. Sediment delivery and erosion from human disturbance is primarily related to timber harvest.

***Final Load Allocations:*** For the diffused permitted sources, such as stormwater runoff from the Department's facilities, and municipal, industrial stormwater, and construction sites stormwater discharges, the

waste load allocation is expressed as equivalent to the load allocations, as provided in the table below. Stormwater runoff from the Department's facilities is diffused and a source of potential sediment to the waters. The potential loads are expected to generate and deliver sediment at rates that are similar to nonpoint sources.

**Lower Eel River Sediment Load Allocations (tons per square mile per year)**

| Sediment Source | 1955 – 2003 Average Annual Loading | Average Annual Load Allocation | 1955 – 2003 Average Daily Loading | Average Daily Load Allocation |
|---|---|---|---|---|
| Natural Load Allocation | 718 | 718 | 2.0 | 2.0 |
| Episodic Roads | 43 | 9 | 0.1 | 0.02 |
| Chronic Roads | 115 | 17 | 0.3 | 0.05 |
| Timber Harvest | 590 | 147 | 1.6 | 0.4 |
| Skid Trail | 7 | 1 | 0.02 | 0.5 |
| Bank Erosion | 21 | 6 | 0.1 | 0.03 |
| Total Human-related Load Allocation | 775 | 180 | 2.1 | 0.5 |
| Total Load Allocations Natural and Human-Related Sources | 1,493 | 898 | 4.1 | 2.5 |

***Contribution Specific to the Department:*** Individual waste load and load allocations for sediment are not specified for the Department. The Department's relative sediment contribution and proportional contribution is unspecified in the TMDL. On August 8, 2020, North Coast Water Board staff provided Department-specific sediment load allocations, which are listed in Table A-2 of this Attachment.

***Final Compliance Deadline:*** U.S. EPA established the TMDL on December 18, 2007. An implementation schedule was not included; therefore, the final compliance deadline was December 18, 2007.

*A9.7.4.1.5 Middle Fork Eel River Sediment Total Maximum Daily Load*

***Description:*** U.S. EPA established the Middle Fork Eel River TMDL for Sediment in December 2003 in accordance with section 303(d) of the Clean Water act because the Water Boards determined the water quality standards were not attained for sediment. The primary purpose for this TMDL is to address impacts on the aquatic life beneficial uses such as salmonid habitat and the decline of salmon and steelhead populations, from detrimental increases in sediment.

***Final Sediment Waste Load Allocations:*** U.S. EPA states that discharge from point sources cannot be readily determined, and possible loading from point sources is not distinguishable from general management-related loading; therefore, allocations set as load allocations also represent waste load allocations.

***Contributions Specific to the Department:*** The TMDL did not assign a Department-specific sediment waste load allocation. The TMDL states that the Department's discharges of sediment, like other point sources of anthropogenic sediment discharges in this TMDL, are comparatively minor sources of this pollutant. On August 8, 2020, North Coast Water Board staff provided Department-specific sediment load allocations, which are listed in Table A-2 of this Attachment.

***Final Compliance Deadline:*** U.S. EPA established the TMDL on December 31, 2003. Therefore, the final compliance deadline was December 31, 2003.

*A9.7.4.1.6 Upper Main Eel River and Tributaries (including Tomki Creek, Outlet Creek and Lake Pillsbury) Sediment Total Maximum Daily Load*

***Description:*** U.S. EPA established the Upper Main Eel River Sediment TMDL on December 29, 2004 because the Water Boards determined that the water quality standards were exceeded due to excessive sediment. The primary purpose of this TMDL is to assure that aquatic life beneficial uses and habitat (such as salmonid habitat) are protected from adverse increases in natural sediment. The decline of salmon and steelhead populations are directly related to the sediment loading in the Upper Main Eel River and tributaries.

***Final Waste Load Allocations:*** The load allocation for the broad category of road-related sediment source is 14 tons per square mile per year. Nonpoint sources are responsible for most sediment loading in the watershed. A limited number of point sources may also discharge sediment. Potential loading from point sources is not distinguishable from general management-related loading; therefore, U.S. EPA set the load allocations for nonpoint sources to also represent waste load allocations for point sources applicable in NPDES permits. In the TMDL, U.S. EPA states it does not expect each square mile within a particular source category throughout the watershed to necessarily meet the load allocation; rather, U.S. EPA states it expects the watershed average for the entire source category to meet the load allocation for that category.

***Contribution Specific to the Department:*** Current point source loads, including from the Department's facilities in the watershed are not specified in the TMDL. On August 8, 2020, North Coast Water Board staff provided Department-specific sediment load allocations, which are listed in Table A-2 of this Attachment.

***Final Compliance Deadline:*** The TMDL was established on December 29, 2004. An implementation schedule was not included; therefore, the final compliance deadline was December 29, 2004.

*A9.7.4.1.7 Garcia River Watershed Sediment Total Maximum Daily Load*

***Description:*** U.S. EPA established the Garcia River Watershed Sediment TMDL on March 16, 1998 with the purpose of identifying excessive sediment loading from accelerated erosion due to land use practices and other causes. Sediment load allocations were identified to address the corresponding impact on aquatic life, specifically the migration, spawning, reproduction, and early development of cold-water fish such as Coho salmon and steelhead trout.

***Final Waste Load Allocations:*** The TMDL does not identify waste load allocations for "controllable" anthropogenic point source discharges of sediment from roads; load allocations for landslides of roads are 135 tons per miles square per year with primary emphasis on unpaved roads.

***Contribution Specific to the Department:*** The TMDL load allocations for road-related sediment applies to all land use activities with a primary emphasis on unpaved county roads and/or access roads for timber and agricultural activities. This TMDL does not specify a load allocation for sediment specifically for the Department's paved roadways or other facilities within its right of way. On August 8, 2020, North Coast Water Board staff provided Department-specific sediment load allocations, which are listed in Table A-2 of this Attachment.

***Final Compliance Deadline:*** The TMDL was established on March 16, 1998. An implementation schedule was not included; therefore, the final compliance deadline was March 16, 1998.

*A9.7.4.1.8 Gualala River Sediment Total Maximum Daily Load*

***Description:*** U.S. EPA established the Gualala River TMDL for Sediment on November 29, 2004 in accordance with section 303(d) of the Clean Water Act and the Water Boards determination that water quality standards are exceeded for excessive sediment. The TMDL was established for the protection of aquatic life such as coho salmon and steelhead trout due to human-caused erosion and sediment discharges.

***Final Waste Load and Load Allocations:*** The TMDL does not specify waste load allocations from point sources. In the TMDL, U.S. EPA states that the sediment discharges from point sources are insignificant. Load allocations are apportioned among the categories of background and nonpoint sources of sediment such as natural landslides, natural stream bank erosion, harvest related delivery, skid trail surface erosion, road-related landslides, road-stream crossing failures, road-related gullies, and

road-related surface erosion. At eighty percent, natural landslides and natural streambank erosion have the large majority of load allocation.

***Contribution Specific to the Department:*** The TMDL does not assign a load allocation or a proportional contribution specific to the Department. On August 8, 2020, North Coast Water Board staff provided Department-specific sediment load allocations, which are listed in Table A-2 of this Attachment.

***Final Compliance Deadline:*** U.S. EPA established the TMDL on November 29, 2001. An implementation schedule was not included; therefore, the final compliance deadline was November 29, 2001.

*A9.7.4.1.9 Klamath River Dissolved Oxygen and Nutrients Total Maximum Daily Load*

***Description:*** On March 24, 2010, the North Coast Water Board adopted the Klamath River TMDL. U.S. EPA approved the TMDL on December 28, 2010. The Klamath River was listed as impaired for organic enrichment caused by low dissolved oxygen, nutrient and temperature pursuant to section 303(d) of the Clean Water Act. These impairments: (1) impact beneficial uses due to the decrease the quality and quantity of suitable habitat for fish and other aquatic life, and (2) disrupt traditional cultural uses by resident Tribes.

***Final Waste Load Allocations:*** The TMDL does not specify Department-specific waste load and load allocations for dissolved oxygen or nutrients.

***Contribution Specific to the Department:*** The TMDL does not assign allocations or a proportional contribution specific to the Department. On January 5, 2021, the North Coast Water Board staff documented that the Department's best management practices for sediment and temperature TMDLs in the Klamath River will satisfy the waste load allocations for dissolved oxygen and nutrient TMDLs. Specifically, dissolved oxygen and nutrients are important components of the Klamath River TMDLs, however dissolved oxygen is largely a response variable related to decomposition of excessive organic matter, increased temperature, and channel simplification/degradation. Nutrient (phosphorous) and organic matter inputs are largely (75%) from regions within Oregon that are transported to the Klamath River attached to sediment particles. The sediment and temperature proportional responsibilities already assigned to Department will address the factors affecting their proportional responsibility to biostimulatory conditions in the Klamath River including temperature, dissolved oxygen, and nutrients.

***Final Compliance Deadline:*** Final deadlines for achievement of load allocations are not specified in the TMDL or Action Plan. The TMDL was adopted on March 24, 2010; therefore, the final deadline was March 24, 2010.

*A9.7.4.1.10 Lost River Nitrogen and Biochemical Oxygen Demand*

***Description:*** The Lower Lost River TMDL was established by U.S. EPA on December 20, 2008 for nitrogen and biochemical oxygen demand. The TMDL addresses the depletion of dissolved oxygen and low pH, two water quality impairments that directly impact aquatic life beneficial uses.

***Final Waste Load Allocations:*** The TMDL assigns waste load allocations as listed in the table below. In the TMDL, U.S. EPA developed a rough estimate of loads based on best professional judgment and provided waste load allocations to account for these very small pollutant contributions. U.S. EPA states that although two state highways are in the watershed, the spatial extent of the highway facilities is very limited, and nitrogen and biological oxygen demand discharges from the highway right of way are expected to be relatively insignificant.

**Nitrogen and Carbonaceous Oxygen Demand Loads Specific to the Department (average kilograms per day)**

| Segment | Dissolved Inorganic nitrogen | Carbonaceous Biochemical Oxygen Demand |
|---|---|---|
| Lost River from border to Tule Lake Refuge | 0.3 | 0.5 |
| Tule Lake Refuge | 0.3 | 0.5 |
| Lower Klamath Refuge | 0.3 | 0.5 |

***Contribution Specific to the Department:*** Department-specific loads are provided in the table, above.

***Final Compliance Deadline:*** U.S. EPA established the TMDL on December 30, 2008. An implementation schedule was not included; therefore, the final compliance deadline was December 30, 2008.

*A9.7.4.1.11 Mad River Sediment and Turbidity Total Maximum Daily Load*

***Description:*** U.S. EPA established this TMDL on December 21, 2007, to assure that aquatic life beneficial uses and corresponding habitats (such as salmonid habitat) are protected from detrimental increases in sediment and turbidity.

***Final Waste Load Allocations****:* In the TMDL, U.S. EPA states that almost all sources of sediment in the watershed are from diffuse, nonpoint sources, including runoff from roads, timber operations and natural background. To ensure protection of cold-water aquatic life, U.S. EPA determined it appropriate to consider the rates set forth as load allocations to also represent waste load allocations for the diffuse discharges that are regulated by point source (i.e., NPDES) permits. In addition, U.S. EPA does not expect each square mile within a particular source category, or

even within each subarea or sub-watershed, to necessarily meet the load allocation; rather, the watershed and subarea averages for the entire source category are to meet the load allocation for that category.

***Contribution Specific to the Department:*** This TMDL does not assign a proportional contribution specific to the Department. On August 8, 2020, North Coast Water Board staff provided Department-specific sediment load allocations, which are listed in Table A-2 of this Attachment.

***Final Compliance Deadline:*** U.S. EPA established the TMDL on December 21, 2007. An implementation schedule was not included; therefore, the final compliance deadline was December 21, 2007.

*A9.7.4.1.12 Navarro River Sediment Total Maximum Daily Load*

***Description:*** U.S. EPA established the Navarro River TMDL pursuant on December 27, 2000. The TMDL identifies sediment loading allocations necessary to maintain water quality standards for sediment impacts in the Navarro River and its tributaries. Increased sediment loads are detrimental to native cold-water fish, such as coho salmon and steelhead trout.

***Final Waste Load Allocations:*** The TMDL does not specify the Department or other point sources as a source of sediment loading into the Navarro River and its tributaries; therefore, the TMDL did not assign a waste load allocation for point sources.

***Contribution Specific to the Department*:** The TMDL does not address proportional contribution of common sources within grouped load allocations. On August 8, 2020, North Coast Water Board staff provided Department-specific sediment load allocations, which are listed in Table A-2 of this Attachment.

***Final Compliance Deadline:*** U.S. EPA established the TMDL on December 27, 2000. An implementation schedule was not included; therefore, the final compliance deadline was December 27, 2000.

*A9.7.4.1.13 Noyo River Sediment Total Maximum Daily Load*

***Description:*** U.S. EPA established the Noyo River Sediment TMDL on December 16, 1999 to address excessive sediment loading. The TMDL was established to protect the aquatic life beneficial uses of the Noyo River, including the salmonid and coho salmon fisheries.

***Final Waste Load Allocations:*** The TMDL does not specify load and waste load allocation specific to the Department. The TMDL acknowledges that State highways in the watershed may contribute sediment to the Noyo River. Specifically, the State Highway 1 bridge may cause and contribute sediment transport as the bridge abutments often serve to constrict a river channel causing flooding upstream and channel erosion downstream. The specific sediment transport effects of Highway 1

are not defined. The TMDL includes a combined load allocation for all roads that is calculated from known quantities.

***Contribution Specific to the Department*:** The Department's sediment load and proportional contributions are not specified in the TMDL. On August 8, 2020, North Coast Water Board staff provided Department-specific sediment load allocations, which are listed in Table A-2 of this Attachment.

***Final Compliance Deadline*:** U.S. EPA established the TMDL in December 16, 1999. An implementation schedule was not included; therefore, the final compliance deadline was December 16, 1999.

*A9.7.4.1.14 Redwood Creek Sediment Total Maximum Daily Load*

***Description:*** U.S. EPA established the Redwood Creek Sediment TMDLs on December 30, 1998 to identify total allowable loads and loading allocations that, when implemented, are expected to result in attainment of applicable water quality standards for sediment. Redwood Creek watershed was listed on the Clean Water Act section 303(d) list for impairment due to sedimentation. The level of sedimentation in Redwood Creek watershed exceeded the narrative water quality objectives necessary to protect aquatic life beneficial uses of the basin, particularly the cold-water fishery.

***Final Sediment Waste Load Allocations:*** In the TMDL, U.S. EPA did not specify sediment waste load allocations. The TMDL for Redwood Creek is estimated to be 1,900 tons per square mile per year expressed as 10-year rolling annual averages. The load allocation for the combined roads, landings, and skid trails erosion for the Redwood Creek watershed is 110 tons per square mile per year. The load allocation for road-related tributary landslides is 70 tons per square miles per year.

***Contribution Specific to the Department:*** The Department's sediment contribution and proportional responsibility are not specified in the TMDL. On August 8, 2020, North Coast Water Board staff provided Department-specific sediment load allocations, which are listed in Table A-2 of this Attachment.

***Final Compliance Deadline:*** U.S. EPA established this TMDL in December 30, 1998. Therefore, the final compliance deadline was December 30, 1998.

*A9.7.4.1.15 Scott River Sediment Total Maximum Daily Load*

***Description***: The North Coast Water Board adopted this TMDL and U.S. EPA subsequently approved it on August 11, 2006. Excessive sediment has resulted in degraded water quality conditions that impair recreational

use, commercial and sport fishing, cold freshwater habitat, and other beneficial uses.

***Final Waste Load Allocations:*** The TMDL does not specify a final load allocation for the Department.

***Contribution Specific to the Department:*** The TMDL does not assign a proportional contribution specific to the Department. On August 8, 2020, North Coast Water Board staff provided Department-specific sediment load allocations, which are listed in Table A-2 of this Attachment.

***Final Compliance Deadline:*** U.S. EPA approved this TMDL on August 11, 2006. This TMDL is required to attain water quality standards 40 years from approval date of August 11, 2006 by U.S. EPA. Therefore, the final compliance date is the required attainment date of August 11, 2046.

*A9.7.4.1.16 Ten Mile River Sediment Total Maximum Daily Load*

***Description***: In December 2000, U.S. EPA established the Ten Mile River TMDL for Sediment to identify sediment loading allocations necessary to implement water quality standards for sediment, which were established to protect the beneficial uses of this river. The primary beneficial use of concern is the salmonid fishery, particularly coho salmon fishery.

***Final Waste Load Allocations:*** In the TMDL, U.S. EPA states there are no point sources of sediment discharges within the area included within this TMDL; therefore, a waste load allocation is not specified. The TMDL is set at the loading capacity of 390 tons per square mile per year. Background was determined to be 311 tons per square mile per year. The TMDL minus the background is the load allocation. Therefore, the load allocation is 79 tons per mile square per year. Only a very small portion of State Highway 1 is contained in the watershed. Table 8 of the Ten Mile River TMDL for Sediment shows that there are 0.96 miles of highway within the watershed.

***Contribution Specific to the Department:*** The Department's sediment contribution and proportional responsibility are not specified in the TMDL. On August 8, 2020, North Coast Water Board staff provided Department-specific sediment load allocations, which are listed in Table A-2 of this Attachment.

***Final Compliance Deadline:*** U.S. EPA established this TMDL on December 31, 2000. An implementation schedule was not included; therefore, the final compliance deadline was December 31, 2000.

*A9.7.4.1.17 Trinity River Sediment Total Maximum Daily Load*

***Description:*** U.S. EPA established this TMDL on December 20, 2001. The Trinity River Basin area covered by this TMDL is approximately 2,000 square miles. The Trinity River is the major tributary to the Klamath River.

The Trinity River Basin terrain is predominantly by mountainous terrain and forested areas. The sediment, turbidity, suspended material, settleable material discharges cause this watershed to be on the Clean Water Act section 303(d) list since 1992. The beneficial use affected by the sediment discharges is primarily cold-water fish habitat for spawning, rearing, and migration. The major source of impairment is from roads, timber harvesting, mining, and natural sources.

***Final Waste Load allocations****:* U.S. EPA states that although nonpoint sources are responsible for most sediment loading in the watershed, point sources may also discharge some sediment. Current and prospective future point sources that may discharge in the watershed are therefore at issue. This includes the Department's right-of-way that discharge under the Department of Transportation statewide stormwater NPDES permit.

This TMDL did not subdivide waste load and load allocations into specific sources, such as roads and timber harvest. Instead, the basin was divided into subareas because of the wide range of sediment delivery rates. In the TMDL, U.S. EPA states it is appropriate to allow this flexibility to meet the management load reduction through any combination of erosion control for roads, timber harvesting, or legacy activities depending on the degree to which a source is contributing to the problem. The tables below provide the management allocations by subareas.

***Contribution Specific to the Department***: The Department's sediment contribution and proportional responsibility are not specified in the TMDL. On August 8, 2020, North Coast Water Board staff provided Department-specific sediment load allocations, which are listed in Table A-2 of this Attachment.

***Final Compliance Deadline:*** U.S. EPA established this TMDL on December 20, 2001. An implementation schedule was not included; therefore, the final compliance deadline was December 20, 2001.

*A9.7.4.1.18 South Fork Trinity River and Hayfork Creek Sediment Total Maximum Daily Load*

***Description:*** U.S. EPA established the South Fork Trinity River and Hayfork Creek Sediment TMDL on December 31, 1998 because of the inclusion of the watershed in section 303(d) list of the Clean Water Act. The watershed is listed as water quality limited due to sediment. The level of sedimentation in the watershed was judged to exceed the existing water quality standards necessary to protect the beneficial uses of the basin, particularly the cold-water fishery. Accelerated erosion from land use practices and other causes adversely affects the ability of the stream system to support cold-water fish such as chinook salmon and steelhead trout.

The purpose of this TMDL is to identify reductions of sediment delivery to the river system that, when implemented, are expected to result in the attainment of applicable water quality standards, including adequate salmonid habitat. This TMDL addresses sediment loading in the entire South Fork Trinity River basin, including Hayfork Creek and other tributaries.

***Final Sediment Waste Load Allocations:*** In the TMDL, U.S. EPA did not identify point source discharges in the basin; therefore, waste load allocations are not specified. A nonpoint source with a Department-specific load allocation is not provided. Instead, allocations for roads are grouped under the sources of landslides; surface erosion; and washout, gullies, and small slides. The total road-related load allocation is 33 tons per square mile per year.

***Contribution Specific to the Department:*** The Department's sediment contribution and proportional contribution are not specified. On August 8, 2020, North Coast Water Board staff provided Department-specific sediment load allocations, which are listed in Table A-2 of this Attachment.

***Final Compliance Deadline:*** U.S. EPA established the TMDL in December 31, 1998. An implementation schedule was not included; therefore, the final deadline was December 31, 1998.

*A9.7.4.1.19 Van Duzen River and Yager Creek Sediment Total Maximum Daily Load*

***Description:*** U.S. EPA established the sediment TMDL for the Van Duzen River on December 16, 1999. The river was included on California's Clean Water Act section 303(d) list beginning in 1992 as water quality limited due to impacts of excessive sedimentation on beneficial uses. The primary beneficial uses of concern identified relate to maintaining aquatic habitat which supports cold-water dependent fish, primarily anadromous salmon, and steelhead.

***Final Sediment Waste Load Allocations:*** In the TMDL, U.S. EPA did not define point source discharges in the Van Duzen River Watershed; thus, waste load allocations for point sources, such as the Department's discharges, are not specified. Instead, the load allocations are defined by "management-associated" load allocations. These are divided into two main groups 1) roads and skid trails and 2) timber harvesting for each of the three subbasins. The load allocations for road and skid trails are listed in the table below.

***Contribution Specific to the Department:*** The TMDL does not specify **t**he Department's sediment contribution and proportional responsibility. On August 8, 2020, North Coast Water Board staff provided Department-specific sediment load allocations, which are listed in Table A-2 of this Attachment.

***Final Compliance Deadline:*** U.S. EPA established the TMDL on December 16,1999. An implementation plan was not included. Therefore, the final deadline was December 16, 1999.

A9.7.4.2 San Francisco Bay Water Board Sediment and Mercury Total Maximum Daily Loads

*A9.7.4.2.1 Guadalupe River Mercury Total Maximum Daily Load*

***Description:*** The San Francisco Bay Water Boards developed the Guadalupe River Mercury TMDL, which was approved by U.S. EPA on June 1, 2010. The Guadalupe River is downstream from the New Almaden Mine, which is the largest-producing mercury mine in North America. This TMDL was developed to protect aquatic life because fish have high mercury concentrations from mine activities that exceed water quality objectives.

***Final Waste Load Allocations:*** U.S. EPA states there are no significant individual point sources of sediment discharge into this watershed. The load allocation for this TMDL watershed is 92 kilograms per year.

***Contribution Specific to the Department:*** The Department's waste load allocation is 0.2 mg of mercury per kilogram of suspended sediment, as specified in the TMDL.

***Final Compliance Deadline:*** The U.S. EPA approved this TMDL on June 1, 2010. The TMDL load allocation is expected to be attained within 20 years; therefore, the final compliance deadline is June 1, 2030.

*A9.7.4.2.2 Napa River Sediment Total Maximum Daily Load*

***Description:*** The San Francisco Bay Water Board adopted the Napa River Sediment Total Maximum Daily, which was approved by U.S. EPA on January 21, 2011. This TMDL provides that steelhead and salmon populations in the Napa River and its tributaries have declined substantially since the late 1940s. Fisheries and sediment sources indicate that spawning and juvenile rearing habitat for salmon and steelhead are adversely affected by high concentrations of fine sediment (primarily sand) deposited in the bed of the Napa River and its tributaries. The goals of the Napa River Sediment TMDL are to conserve steelhead trout population, establish a self-sustaining Chinook salmon population, enhance the overall health of the native fish community, and enhance the aesthetic and recreational values of the river and its tributaries.

***Contributions Specific to the Department:*** The Department is identified as a point source and is provided with a waste load allocation of 600 metric tons per year and 0.4 percent of natural background.

***Final Compliance Deadline:*** The TMDL states that zero sediment reductions are needed, and the Department is in compliance if it implements appropriate sediment control measures, participates in monitoring programs., and complies with this Order.

*A9.7.4.2.3 Pescadero-Butano Watershed Sediment Total Maximum Daily Load*

***Description:*** The San Francisco Bay Water Board adopted the Pescadro-Butano Watershed Sediment TMDL, which was approved by U.S. EPA on June 24, 2019. The objective is to reduce sediment deposition in Pescadero and Butano creeks and their tributaries, and to support recovery of steelhead and Coho salmon runs. This TMDL allocates discharges of sediment to minor point sources including (stormwater runoff and construction activities), natural erosion processes, non-point sources generated by human actions (e.g., roads, grazing, and accelerated bed and bank erosion along the creeks).

***Final Waste Load Allocations and Contributions Specific to the Department:*** The sediment waste load allocation specific to the Department is 50 tons per year, which is 0.3 percent of natural background.

***Final Compliance Deadline:*** A final compliance deadline was not included in this TMDL. Instead, waterbody attainment with sediment water quality objectives is to be evaluated using a 10-year averaging period starting in 2019 and ending in 2029.

*A9.7.4.2.4 Sonoma Creek Sediment Total Maximum Daily Load*

***Description:*** The San Francisco Bay Water Board adopted the Sonoma Creek Sediment TMDL, which was subsequently approved by U.S. EPA on September 8, 2010. Sonoma Creek exceeds water quality standards for sediment, and the creek has declines in native fish populations. The TMDL addresses identifies pollutant sources.

***Final Sediment Waste Load Allocation Specific to the Department:*** The Department is identified as one of three-point source discharges of stormwater, which includes the Department, municipal, and construction discharges. The Department's waste load allocation is 100 tons per year, which is 0.2 percent of natural background sediment.

***Final Compliance Deadline:*** A final compliance deadline was not included in this TMDL. Instead, waterbody attainment with sediment water quality objectives are to be evaluated over a 5 to 10-year averaging period, which runs from 2010 through 2020.

*A9.7.4.2.5 San Francisco Bay Mercury Total Maximum Daily Load*

The San Francisco Bay mercury TMDL includes loads and allocations that are grouped together as "urban stormwater." The TMDL states that permits shall include requirements and schedules to implement technically feasible, effective, and cost-efficient control measures to attain allocations. This Order requires the Department to implement the mercury TMDL by treating stormwater runoff to meet the Department's allocation, which is based on right-of-way acres.

Atmospheric deposition distributes mercury uniformly across the San Francisco Bay, and atmospherically deposited mercury constitutes a large percentage of mercury found in stormwater runoff. Achieving mercury load reductions is an appropriate driver for deriving areal treatment requirements for the Department because mercury will be found in all stormwater runoff.

The Department will implement the mercury TMDL by treating stormwater runoff from its right-of-way or other areas. The Department has 27,000 acres of right-of-way. The Department's proportional responsibility is 11 percent of its right-of ways, or 2,970 acres that drain directly or indirectly to San Francisco Bay.

The TMDL states that treatment controls may be implemented within the Department's right-of-way or in source areas. For example, treatment controls may be implemented in areas managed by municipalities, local agencies, or private entities to which runoff from Department's right-of-way is discharged.

For mercury monitoring, the TMDL states that the San Francisco Bay Regional Monitoring Program conducts monitoring relevant to evaluating progress toward meeting the mercury sediment, human health, and wildlife targets. Numeric targets are described in the San Francisco Bay Region Basin Plan, section 7.2.2.2. Other monitoring methods are acceptable if the monitoring approach used to evaluate progress toward meeting the mercury TMDL targets include the following:

- The suspended sediment target (0.2 mg mercury per kg dry sediment) shall be compared to the annual median San Francisco Bay suspended sediment mercury concentration found through RMP monitoring.
- The human health target is a fish tissue mercury concentration (0.2 mg mercury per kg fish tissue).
- The wildlife target is fish tissue mercury concentration (0.03 mg mercury per kg fish). This target applies to average wet weight whole fish concentrations in 3–5 centimeters length fish.

***Description:*** On February 12, 2008, U.S. EPA approved the San Francisco Bay Water Board Basin Plan amendment incorporating a TMDL for mercury in San Francisco Bay. San Francisco Bay is impaired because mercury contamination adversely affects existing beneficial uses, including sport fishing, preservation of rare and endangered species, and wildlife habitat. Mercury concentrations in fish are high enough to threaten the health of humans who consume them. In addition, mercury concentrations in some bird eggs harvested from the shores of San Francisco Bay are high enough to account for abnormally high rates of eggs failing to hatch.

***Final Waste Load Allocations:*** The waste load allocation for all urban stormwater runoff in the San Francisco Bay area is 82 kilograms per year. There are no Department-specific load or waste load allocations. Instead, the TMDL states that the statewide NPDES stormwater permits should include an equitable allocation-sharing scheme in consultation with the Department to address the State roadway and non-roadway facilities within the mercury program area.

***Contribution Specific to the Department:*** The TMDL does not have a Department specific waste load allocation. Instead, the Department's waste load allocation shares an unspecified portion that is assigned to city or municipal NPDES permits in which the Department's roads or facilities reside. In November 2020, San Francisco Bay Water Board staff provided information (detailed above) that the Department shall implement the mercury TMDL by treating 2,970 acres of right-of-way that drains directly or indirectly to San Francisco Bay, as described above.

***Final Compliance Deadline:*** The TMDL states that the attainment date for stormwater contributions is set at 20 years from the TMDL effective date of February 12, 2008; therefore, the final compliance deadline is February 12, 2028.

A9.7.4.3 Central Coast Sediment Total Maximum Daily Loads

Sediment TMDLs within the jurisdiction of the Central Coast Water Board state that for point sources, implementation will continue to rely on existing regulatory controls as appropriate for point sources, including NPDES stormwater permits.

*A9.7.4.3.1 San Lorenzo River (includes Carbonera Lompico, and Shingle Mill Creeks) Sediment Total Maximum Daily Load*

***Description:*** On May 16, 2003, the Central Coast Water Board adopted the TMDL for Sediment for San Lorenzo River, Carbonera Creek, Lompico Creek, and Shingle Mill Creek. U.S. EPA subsequently approved it on February 19, 2004. The San Lorenzo River Estuary and the San Lorenzo River have been listed for non-attainment of established water quality standards due to sediment under section 303(d) of the Clean Water Act.

Three creeks within the San Lorenzo River Watershed have also been listed. These are Shingle Mill Creek, Lompico Creek, and Carbonera Creek. As required under section 303(d), the State established the TMDL for sediment at a level necessary to achieve and attain the water quality standard for sediment.

***Final Waste Load Allocations:*** For road-related allocations, the TMDL combines nonpoint source load allocation with point source waste load allocations for each watershed segment, as shown in the table, below. A specific allocation for the Department is not defined, however the TMDL groups the Department under "Upland Public/Private Roads." While the Department is not included under the landslides source category, the TMDL acknowledges that the Department has repaired three large landslides along Highway 9: south of Felton, at Glen Arbor Road, and north of Boulder Creek.

**San Lorenzo River Sediment Allocations (tons per year)**

| Sediment Source Category | Shingle Mill Creek | Carbonera Creek | Lompico Creek | San Lorenzo River |
|---|---|---|---|---|
| Upland Public/ Private Roads | 146 | 1,235 | 367 | 13,835 |
| Streamside Public/Private Roads on Steep Slopes | 77 | 135 | 239 | 6,178 |
| Mass Wasting | 0 | 4,082 | 6,440 | 157,388 |

***Contribution Specific to the Department:*** No specific waste load allocation or specific sediment contribution were assigned to the Department. The TMDL states that discharges that comply with the respective stormwater NPDES permits are considered to be achieving sediment load reductions; therefore, this Order does not require any additional TMDL-specific actions for this TMDL.

***Final Compliance Deadline:*** The TMDL does not include direct measurement of sediment loads. Instead, the TMDL states that the timeline for implementation measures is 25 years, which is May 16, 2028. The TMDL Implementation Plan relies on continued implementation of on-going efforts for source control, as required under this Order.

*A9.7.4.3.2 Morro Bay (includes Chorro Creek, Los Osos Creek, and the Morro Bay Estuary) Sediment Total Maximum Daily Load*

***Description:*** Chorro Creek, Los Osos Creek, Morro Bay, and the Morro Bay Estuary are listed as waters impaired by sedimentation/siltation. The Central Coast Water Board adopted this TMDL, which was subsequently

U.S. EPA approved on January 20, 2004. The loading capacity for all the waterbodies in this watershed is addressed in one TMDL. The concern with Morro Bay is the sediment discharges have been accelerated due to anthropogenic watershed disturbances. Studies conducted by various authors over the past 25 years have concluded that the rate of sedimentation to Morro Bay has rapidly increased.

***Final Waste Load Allocations:*** The sediment load to Morro Bay, Los Osos Creek and Chorro Creek derives from both nonpoint sources and point sources. The TMDL combines nonpoint source load allocation and point source waste load allocations for each segment of this TMDL, as provided in the table, below.

**Load Allocations (expressed as annual load in tons per year)**

| Watershed | Road Allocations | Total Load |
|---|---|---|
| Chorro Creek at Reservoir | 906 | 6,541 |
| Dairy Creek | 61 | 440 |
| Pennington Creek | 134 | 966 |
| San Luisito Creek | 1,013 | 7,315 |
| San Bernardo Creek | 1,422 | 10,269 |
| Minor Tributaries | 622 | 4,489 |
| **Chorro Creek** (subtotal) | 4,158 | 30,020 |
| Los Osos Creek | 499 | 3,052 |
| Warden Creek and Tributaries | 296 | 1,812 |
| **Los Osos Creek** (subtotal) | 795 | 4,864 |
| **Morro Bay Watershed** (total) | 5,137 | 34,885 |

***Contribution Specific to the Department:*** This TMDL states that discharges which comply with their respective NPDES stormwater permits are meeting their portion of shared responsibility for achieving sediment load reduction; therefore, this Order does not require any additional TMDL-specific actions of the Department for this TMDL.

***Final Compliance Deadline:*** The TMDL states that final compliance with sediment load reductions is expected to be achieved by 2053 (50 years from the adoption of the TMDL).

A9.7.4.4 Los Angeles Region Sediment/Nutrient/Mercury Total Maximum Daily Loads

Sediment, Nutrient, and Mercury TMDLs within the jurisdiction of the Los Angeles Water Board are for point sources. Implementation will continue to rely on existing regulatory control requirements included in this Order.

*A9.7.4.4.1 Ballona Creek Wetlands Sediment and Invasive Vegetated Species Total Maximum Daily Loads*

***Description:*** U.S. EPA established the Ballona Creek Wetlands TMDL for Sediment and Invasive Species on March 26, 2019 because the watershed was identified on the State's 1998 303(d) Impaired Waterbody List for the Los Angeles region. It was listed due to legacy sediment that has severely impacted habitats, wildlife, and aquatic organisms. Invasive exotic vegetated species has resulted in a loss of habitat. It is necessary to increase the diversity and population of plant and animal species for Ballona Creek Wetlands to support wetland and aquatic health. The TMDL addresses sediment impairments by setting targets to restore a wetland habitat. The TMDL covers 600 acres, of which 85 acres consist of roads, levees, platforms, and similar structures. The Ballona Creek Watershed covers approximately 81,980 acres, of which the Department has 1,206 acres of right-of-way (approximately 1.5 percent).

***Final Waste Load Allocations:*** U.S. EPA established waste load allocations for sediment and invasive exotic vegetation that are assigned jointly to entities as a group, which includes the Department. For sediment, the joint waste load allocations are the total allowable sediment load that can be discharged into Ballona Creek Wetlands by point source discharges. The TMDL states, "since the current existing discharge of sediment load is not contributing to the listed impairments or otherwise causing a negative impact to Ballona Creek Wetlands, this TMDL establishes joint waste load allocations based on existing conditions." The joint waste load allocation is set at 58,354 cubic yards per year (44,615 cubic meters per year).

For invasive exotic vegetated species, the load allocation is zero or 10 percent coverage of invasive exotic plant species. For those species listed on the California Noxious Weed List or rated as a "high" or "moderate" on the California Invasive Plant Council's Invasive Plant Inventory List, the load allocation is set at zero. For those species rated as "low" on the California Invasive Plant Council's Invasive Plant Inventory List, the load allocation is set at 10 percent to accommodate situations in which removal of these particular species would cause more disturbances to the habitat. The load allocation is expressed as an average daily rate.

***Contribution Specific to the Department:*** The TMDL specifically targets group compliance. The Ballona Creek Watershed covers approximately 81,980 acres, of which the Department has 1,206 acres of right-of-way (approximately 1.5 percent). Therefore, compliance may be demonstrated through 1.5 percent participation in group compliance activities or through a demonstration that the Department has treated its contributing right-of-way area for sediment.

***Final Compliance Deadline:*** U.S. EPA did not include an implementation schedule in this TMDL; thus, the final compliance deadline was March 26, 2012.

*A9.7.4.4.2 Los Angeles Area Lakes, Echo Park Lake, Total Nitrogen and Total Phosphorus Total Maximum Daily Loads*

***Description:*** U.S. EPA established the Echo Park Lake TMDL on March 26, 2012 due to nutrient impairments and inclusion on a 303(d) Clean Water Act list. Nutrients include nitrogen and phosphorous. The TMDL describes the impairments, the waste load allocations developed to address nutrients, and the drainage areas. Echo Park Lake has two subwatersheds: the southern subwatershed and the northern subwatershed, each of which are assigned waste load allocations.

***Final Waste Load Allocations and Contributions Specific to the Department:*** Both subwatersheds drain to a storm drain system that drain to the lake; therefore, all allocations except atmospheric deposition are waste load allocations. The sum of all total phosphorous waste load allocations for both the southern and northern subwatershed is 83.3 pounds per year. Likewise, the sum of all nitrogen waste load allocations is 682 pounds per year. The Department's contribution to the waste load allocations is less than one percent of the total waste load allocations for each nutrient. The Department's waste load allocations and percent contribution are provided in the two tables, below.

**Department-Specific Final Nutrient Waste Load Allocations (pounds per year)**

| Echo Park Lake Subwatershed | Total Phosphorus | Total Nitrogen |
|---|---|---|
| Northern | 0.608 | 4.77 |
| Southern | 0.051 | 0.403 |

**Department-Specific Contributions**

| Echo Park Lake Subwatershed | Total Phosphorous (Percent of Total Waste Load Allocation) | Total Nitrogen (Percent of Total Waste Load Allocation) |
|---|---|---|
| Northern | 0.6 | 0.7 |
| Southern | 0.05 | 0.06 |

***Final Compliance Deadline*:** U.S. EPA established the TMDL for nutrients in Echo Park Lake on March 26, 2012. An implementation schedule was not included; therefore, the final compliance deadline was March 26, 2012.

*A9.7.4.4.3 Los Angeles Area Lakes, North, Center and Legg Lakes, Nitrogen and Phosphorus Total Maximum Daily Loads*

***Description**:* U.S. EPA established the North, Center, and Legg Lakes TMDL for nitrogen and phosphorous on March 26, 2012. The lakes are listed as impaired due to nutrients. Nutrient load reductions are required to achieve a chlorophyll target; these reductions are also expected to address problems associated with increased levels of ammonia, odor, and low pH. Elevated nutrient levels are currently impairing recreational and ecological habitat uses by stimulating algal growth that form mats. Five subwatersheds comprise the drainage area, which includes storm drain networks that discharge to these lakes.

***Waste Load Allocations and Contributions Specific to the Department**:* Municipal and industrial stormwater discharges are assigned waste load allocations, which includes discharges from the Department's State Highway system. The sum of all the waste load allocations for total phosphorous is 1,541 pounds per year. The sum of all waste load allocations for total nitrogen is 9,135 pounds per year. The Department's portion of the waste load allocations are provided in the table, below, which includes the Department's percentage of each total waste load allocation. The Department's contributions are one percent or less.

**Department-Specific Waste Load Allocations and Percent Contribution to the Legg Lakes System**

| Subwatershed | Total Phosphorus (pounds/year) and Percent of Total Phosphorous Waste Load Allocation (%) | Total Nitrogen (pounds/year) and Percent of Total Nitrogen Waste Load Allocation (%) |
|---|---|---|
| Direct to Center Lake | 4.6 (0.2 %) | 15.5 (0.2 %) |
| Direct to Legg Lake | 1.2 (0.1 %) | 4.0 (<0.1 %) |
| Direct to North Lake | 19.1 (1.0 %) | 64.1 (0.6 %) |
| Northwestern | 9.4 (0.5 %) | 29.3 (0.3 %) |
| Northeastern | 10.9 (0.6 %) | 34.0 (0.3 %) |

***Alternative Waste Load Allocations**:* Alternative concentration-based waste load allocations are available to the Department if the Department satisfies criteria in the TMDL, which includes implementation of an approved Lake Management Plan. The alternative waste load allocations are provided in the table below.

**Department's Alternative Waste Load Allocations for Nutrients to the Legg Lake System with Approved Lake Management Plan**

| Subwatershed | Maximum Allowable Total Phosphorus (mg/L) | Maximum Allowable Total Nitrogen (mg/L) |
|---|---|---|
| Direct to Center Lake | 0.1 | 1.0 |
| Direct to Legg Lake | 0.1 | 1.0 |
| Direct to North Lake | 0.1 | 1.0 |
| Northwestern | 0.1 | 1.0 |
| Northeastern | 0.1 | 1.0 |

***Final Compliance Deadline**:* U.S. EPA established the TMDL on March 26, 2012. An implementation schedule was not included; therefore, the final compliance deadline was March 26, 2012.

*A9.7.4.4.4 Los Angeles Area Lakes, Peck Road Park Lake, Nitrogen and Phosphorus Total Maximum Daily Loads*

***Description:*** U.S. EPA established the Peck Road Park Lake TMDL for nutrients on March 26, 2012. Nutrients include total phosphorous and total nitrogen. The Los Angeles Water Board identified the lake as impaired with excess nitrogen and phosphorus, which causes excess algae growth that impairs aquatic life and recreational uses. Along with other stormwater discharges, the Department's stormwater drains to storm sewer systems within two subwatersheds, the Eastern and the Western subwatersheds are an identified contribution. These storm sewer systems discharge to the lake. Waste load allocations are identified by subwatershed and by dischargers.

***Final Nutrient Waste Load and Contributions Specific to the Department:*** The Department and other municipal, industrial, and national forest stormwater dischargers are each assigned waste load allocations. The sum of all the waste load allocations for total phosphorous is 19,319 pounds per year. The sum of all waste load allocations for total nitrogen is 186,845 pounds per year. The Department-specific contributions are less than 1 percent of the total load for phosphorous and for nitrogen. The Department's allocations consist of stormwater from the state highway system, which are provided in the table, below.

**Department's Waste Load Allocations for Phosphorous and Nitrogen to Peck Road Park Lake (pounds per year)**

| Subwatershed | Total Phosphorus | Total Nitrogen |
|---|---|---|
| Eastern | 158 | 1,165 |
| Western | 34.2 | 251 |

***Final Compliance Deadline:*** U.S. EPA established the TMDL on March 26, 2012. An implementation schedule was not included; therefore, the final compliance deadline was March 26, 2012.

*A9.7.4.4.5 Los Angeles Area Lakes, Puddingstone Reservoir, Nitrogen, Phosphorus, and Mercury Total Maximum Daily Loads*

***Description:*** U.S. EPA established the Puddingstone Reservoir TMDL for nitrogen, phosphorous, and mercury on March 26, 2012. Two subwatersheds comprise the drainage area to this reservoir. The Northern subwatershed drains to the storm sewer network that leads to the Southern subwatershed. Drainage from the Southern subwatershed enters the reservoir via natural tributaries or overland flow. Elevated nutrient (nitrogen and phosphorus) levels are currently impairing recreational and ecological habitat uses by stimulating algal growth that form mats. The TMDL provides waste load allocations for the Northern subwatershed and the Southern subwatershed.

***Nutrient Waste Load Allocations Specific to the Department:*** The Department and other municipal, industrial, construction and national forest stormwater dischargers are each assigned waste load allocations. The sum of all these waste load allocations for total phosphorous is 4,226 pounds per year. The sum of all waste load allocations for total nitrogen is 18,756 pounds per year. The Department's allocations consist of stormwater from the state highway system, which are provided in the table, below, by subwatershed. Department-specific proportional contributions are not otherwise identified.

**Department's Final Waste Load Allocations for Nitrogen and Phosphorus at Puddingstone Reservoir (pounds per year)**

| Subwatershed | Total Phosphorus | Total Nitrogen |
|---|---|---|
| Northern | 167 | 745 |
| Southern | 14.8 | 68.2 |

***Nutrient Alternative via Approved Lake Management Plan Waste Load Allocations:*** Alternative "Approved Lake Management Plan Waste Load Allocations" are potentially available to the Department if the Department satisfies certain criteria outlined in the TMDL, including the implementation of an approved Lake Management Plan. The alternative concentration-based waste load allocations are provided in the table below.

**Nutrient Alternative, Approved Lake Management Plan Waste Load Allocations (milligrams per liter)**

| Subwatershed | Maximum Allowable Total Phosphorus | Maximum Allowable Total Nitrogen |
|---|---|---|
| Northern | 0.1 | 1.0 |
| Southern | 0.1 | 1.0 |

***Total Nutrients Contribution Specific to the Department****:* The Department's relative contribution to the total nutrient pollutant loading, in percentages of the total load, are provided in the table, below.

**Departments Percentage of the Total Nutrient Loading, Puddingstone Reservoir**

| Subwatershed | Percentage of the Total Phosphorus Load | Percentage of the Total Nitrogen Load |
|---|---|---|
| Northern | 3.6 % | 3.4 % |
| Southern | 0.3 % | 0.3 % |

***Mercury Waste Load Allocations and Contributions Specific to the Department:*** Puddingstone Reservoir data indicates that mercury in fish tissue exceeds the fish tissue guideline for mercury. The Department's mercury contribution in the Northern subwatershed is 1.85 percent of the total load. The Department's contribution in the Southern subwatershed is 0.13 percent of the total load. The mercury waste load allocations specific to the Department are provided in the table, below.

***Final Compliance Deadline:*** The final compliance deadline for all final waste load allocations in this TMDL is required by March 23, 2032.

**Department's Total Mercury Waste Load Allocations, Puddingstone Reservoir**

| Subwatershed | Annual Total Load (grams per year) | Percent of Total Load | Waste Load Allocation (grams per year) |
|---|---|---|---|
| Northern | 1.32 | 1.85 % | 0.702 |
| Southern | 0.096 | 0.13 % | 0.051 |

*A9.7.4.4.6 Los Angeles Area Lakes, Lake Sherwood, Mercury Total Maximum Daily Load*

***Description:*** U.S. EPA established the Lake Sherwood Mercury TMDL on March 26, 2012. Lake Sherwood is impaired due to excessive mercury in fish tissue. Beneficial uses affected by the impairment include recreational

and aquatic habitat uses. Lake Sherwood is comprised of six subwatersheds, of which the Department discharges only within one watershed – the Carlisle Canyon subwatershed. Therefore, the TMDL provides a waste load allocation for the Department's small area in the Carlisle Canyon subwatershed.

***Mercury Waste Load Allocation for Lake Sherwood Specific to the Department:*** Waste load allocations are assigned to the Department for the Carlisle Canyon subwatershed. The mercury annual total load to Lake Sherwood is 41.7 grams per year, of which the Department was determined to have 0.12 percent of the total load or 0.049 grams per year. The Department's waste load allocation to Carlisle Canyon is 0.014 grams per year, as shown in the table below.

**Department's Waste Load Allocations for Mercury, Lake Sherwood Subwatershed**

| Subwatershed | Existing Annual Mercury Load (grams/year) | Percent of Existing Annual Mercury Load | Final Waste Load Allocation (grams/year) |
|---|---|---|---|
| Carlisle Canyon | 0.049 | 0.12 | 0.014 |

***Final Compliance Deadline:*** U.S. EPA established the TMDL on March 26, 2012. An implementation schedule was not included; therefore, the final compliance deadline was March 26, 2012.

*A9.7.4.4.7 Machado Lake Eutrophic Conditions, Algae, Ammonia, and Odors (Nutrients)*

***Description:*** U.S. EPA approved the Machado Lake TMDL on March 11, 2009, after the Los Angeles Water Board developed and adopted the TMDL in 2008. Machado Lake is impaired due to eutrophic conditions, algae, ammonia, and odors. Excessive loadings of nutrients, nitrogen (including ammonia) and phosphorus, causing eutrophic conditions, excessive algae, and odors are impacting beneficial uses, including recreation, aquatic life, and water supply.

***Final Nutrients Waste Load Allocation:*** The waste load allocations are an annual mass-based allocation that are equal to a monthly average concentration of 0.1 milligrams per liter total phosphorous and 1.0 milligrams per liter total nitrogen based on approved flow conditions.

The TDML states that NPDES stormwater permittees may be considered in compliance with waste load allocations by actively participating in a Lake Water Quality Management Plan and by attaining the waste load allocations for Machado Lake. Stormwater permittees and the responsible

party for the lake may work together to implement the Lake Water Quality Management Plan and reduce external nutrient loading to attain the TMDL waste load allocations measured in the lake. Alternatively, compliance may also be demonstrated as concentration based monthly averages for total phosphorous and total nitrogen measured at the storm drain outfall of the Department's drainage area.

***Contribution Specific to the Department:*** The Department's contribution to the overall loading is defined in the TMDL. The Department-specific waste load allocation is 0.1 milligrams per liter for total phosphorus and 1.0 milligrams per liter for total nitrogen.

***Final Compliance Deadline:*** The TMDL required the Department to comply with its final waste load allocations for Machado Lake by September 11, 2018.

*A9.7.4.4.8 Malibu Creek and Lagoon Sedimentation and Nutrients Total Maximum Daily Load*

***Description:*** U.S. EPA established the Malibu Creek and Lagoon Sedimentation and Nutrients TMDL on July 2, 2013. Excess sediment accumulates in the lagoon, increasing nutrient loads (total phosphorus and total nitrogen) and causing excessive algae blooms that adversely impact aquatic life. Stormwater is considered a source of sediments and nutrients. Point source municipal stormwater discharges in the Malibu Creek watershed are regulated through the statewide NPDES municipal stormwater permit for the Department and other NPDES municipal stormwater permits for the Los Angeles County stormwater conveyance systems.

***Final Nutrient Waste Load Allocations and Contributions Specific to the Department:*** Final nutrient waste load allocations are concentration-based average seasonal load for two seasons: Summer from April 15 to November 15, and Winter from November 16 to April 14. These seasonal waste load allocations assigned to the Department for nutrients are summarized in the table below.

**Department's Waste Load Allocations, Malibu Creek and Lagoon (milligrams per liter)**

| Winter–Total Phosphorus | Winter–Total Nitrogen | Summer–Total Phosphorus | Summer–Total Nitrogen |
|---|---|---|---|
| 0.2 | 4 | 0.1 | 1.0 |

***Final Sediment Waste Load Allocations and Contributions Specific to the Department:*** Final sedimentation allocations assigned to the Department are provided in the table below. The TMDL assigns waste

load and load allocations. The sum of all the waste load plus the load allocations is 5,817 tons per year. The Department's contribution of sediment is 0.8 percent, or 44 tons per year, as provided in the table below.

**Sediment Waste Load Allocations for Malibu Creek and Lagoon**

| Responsible Party | Type of Allocation | Allocation Fraction (percent) | Allocation (tons/year) |
|---|---|---|---|
| Department | Waste load | 0.8% | 44 |
| Los Angeles County | Waste load | 17.4% | 1,012 |
| Unincorporated area draining to Las Virgenes Creek | Load | 0.3% | 16 |
| Protected land below Malibu Lake | Load | 13.7 | 796 |
| Outlet of Malibu Lake | Load | 67.9% | 3,950 |
| Total of all allocations | | 100.0 % | 5,817 |

***Final Sedimentation and Nutrient TMDL Compliance Deadline for* Malibu *Creek and Lagoon:*** U.S. EPA established the TMDL on July 2, 2013. An implementation schedule was not included; therefore, the final compliance deadline was July 2, 2013.

*A9.7.4.4.9 Ventura River and its Tributaries Algae, Eutrophic Conditions and Nutrients Total Maximum Daily Load*

***Description:*** The Los Angeles Water Board developed and adopted the Ventura River and its Tributaries Algae, Eutrophic Conditions and Nutrients TMDL, which was subsequently approved by U.S. EPA on June 28, 2013. The Ventura River and its tributaries are identified on the 1998, 2002, 2006, and 2010 Clean Water Act section 303(d) list of impaired waterbodies due to algae, eutrophic conditions, low dissolved oxygen, and nitrogen. Impairment of aquatic life and cold-water habitat beneficial uses was due to nutrient loading and subsequent algae growth.

***Final Waste Load Allocations:*** Dry-weather nutrients are identified as total nitrogen and total phosphorous. The wet-weather nutrient is nitrate-as-nitrogen plus nitrite. Wet-weather loads do not have a significant impact on receiving water quality; thus, wet-weather waste load allocations are set equal to the existing stormwater quality.

***Contribution Specific to the Department:*** The Department's proportional contributions to the final waste load allocations are defined in the TMDL, as shown in the two tables below.

**Department's Dry-Weather Waste Load Allocations for the Ventura River and Tributaries (pounds per day)**

| Source Type | Total Nitrogen | Total Phosphorous |
|---|---|---|
| Department's stormwater | 1.1 | 0.11 |

**Department's Wet-weather Waste Load Allocations for the Ventura River and Tributaries**

| Source Type | Reach | Nitrate-as-Nitrogen Plus Nitrite (milligrams per liter) |
|---|---|---|
| Department's stormwater | Estuary | 7.4 |
| Department's stormwater | Reach 1 | 7.4 |

***Final Nutrients TMDL Compliance Deadlines*:** Wet-weather waste load allocations for the Department became effective on the effective date of the TMDL (June 27, 2013). Dry-weather waste load allocations for the Department became effective on June 28, 2019.

A9.7.4.5 Central Valley Region Nutrients and Mercury Total Maximum Daily Loads

*A9.7.4.5.1 Clear Lake Nutrients Total Maximum Daly Load*

***Description:*** Central Valley Water Board adopted the Clear Lake Nutrients TMDL based on its determination that the beneficial uses are impaired due to excess nutrients, primarily phosphorus. U.S. EPA approved the TMDL on September 21, 2007. Excess phosphorus contributes to nuisance blooms of blue-green algae in the spring, summer, and fall seasons. Most phosphorous sources to Clear Lake are sediment driven and include runoff from roads, erosion from agricultural and urban areas, instream channel erosion, timber harvesting, construction, gravel mining, wildfires, control burns, off highway vehicle use, and dredging and filling. Fertilizer use, sewer overflows, and septic overflows may also contribute phosphorus to the lake. The TMDL addresses elevated phosphorous loads to resolve water quality problems due to excessive nutrients in Clear Lake.

***Final Waste Load Allocations and Contributions Specific to the Department:*** Waste load allocations for phosphorus are assigned to point source discharges regulated under NPDES permits. The point source

dischargers in the Clear Lake watershed are the stormwater permitees, which are combined into one group. These combined stormwater permitees are assigned a phosphorus waste load allocation of 2,000 kilograms per year. The Department is a point source discharger and is regulated under this NPDES permit and the statewide NPDES Construction Stormwater General Permit for stormwater discharge from its facilities. The Department maintains approximately 135 miles of paved roads within the Clear Lake watershed; the Department's paved roads represent less than 0.1% of the Clear Lake watershed; therefore, the Department is assigned a waste load allocation of 100 kg phosphorus per year.

***Final Compliance Deadline:*** The compliance deadline for the phosphorus waste load allocation in Clear Lake was required by September 21, 2017, ten years after approval of the TMDL.

*A9.7.4.5.2 Cache Creek, Bear Creek, Sulphur Creek and Harley Gulch Mercury Total Maximum Daily Load*

***Description:*** The Cache Creek, Bear Creek, Sulphur Creek, and Harley Gulch Mercury TMDL was developed and adopted by the Central Valley Water Board, and subsequently approved by U.S. EPA on February 7, 2011. The goal of this TMDL is to lower mercury inputs throughout the Cache Creek watershed. Cache Creek and three tributaries (Bear Creek, Sulphur Creek, and Harley Gulch) are impaired by mercury because concentrations of mercury in fish exceed levels safe for consumption by humans and wildlife species that eat the fish. Sources of mercury are 14 inactive mercury and gold mines, naturally mercury-enriched soil, springs, and deposition of mercury transported in air. The TMDL establishes aqueous methylmercury allocations for Cache Creek, Bear Creek, and Harley Gulch calculated to achieve fish tissue objectives, with an emphasis on load reductions from inactive mines. This TMDL requires the Department and other road managers to control and reduce erosion of mercury-contaminated soil. State Highway 16 transects a steep section of the Cache Creek canyon between Bear Creek and Rumsey.

***Final Allocations:*** The load allocations are assigned to watersheds as listed in the table, below.

**Cache Creek Methylmercury Annual Load Allocations Assigned to Watersheds**

| Source | Annual Load Allocation (grams per year) |
|---|---|
| Cache Creek (Clear Lake to North Fork Confluence | 11.0 |
| North Fork Cache Creek | 12.4 |
| Harley Gulch | 0.41 |
| Davis Creek | 0.7 |
| Bear Creek | 3.2 |
| In-channel production and un-gauged tributaries | 7.4 |
| Compliance Point for Cache Creek Tributaries: Cache Creek at Yolo | 39.0 |
| Cache Creek Settling Basin Outflow | 12.0 |

***Contribution Specific to the Department:*** No specific methylmercury proportional contribution is assigned to the Department. The Department's relative contribution to pollutant loading is unspecified. In lieu of Department-specific allocations, the TMDL requires the Department to implement stringent best management practices for the Cache Creek Methylmercury TMDL. This is described in correspondence from Central Valley Water Board to State Water Board staff on December 12, 2020.

***Final Compliance Deadline:*** The Central Valley Water Board will review progress toward water body attainment with water quality objectives and Basin Plan requirements at least every five years. (The Central Valley Water Board recognizes that it may take hundreds of years to achieve established mercury objectives.)

*A9.7.4.5.3 Sacramento-San Joaquin River Delta Estuary Methylmercury Total Maximum Daily Load*

***Description:*** The Central Valley Water Board adopted the Sacramento-San Joaquin River Delta Estuary Methylmercury TMDL, which was subsequently approved by U.S. EPA on October 20, 2011. The TMDL identified the Delta as impaired by mercury because fish had elevated levels of mercury that posed a risk for human and wildlife consumption. The intent of the TMDL is to reduce concentrations of methylmercury in fish by controlling sources of both methylmercury and total mercury. Methylmercury levels in fish are strongly correlated with mercury concentration in water and watershed conditions that induce methylation of mercury in the water body; therefore, load and waste load allocations are in the form of annual aqueous methylmercury loads.

***Final Waste Load Allocations and Contributions Specific to the Department***: In lieu of a Department-specific waste load allocation for the Delta Methylmercury TMDL, the Department is required to participate in the Delta Regional Monitoring Program or equivalent. This is described in correspondence from Central Valley Water Board to State Water Board staff on December 12, 2020. Waste load allocations apply to point sources, including municipal stormwater discharges. Because methylmercury levels in fish are correlated with methylmercury levels in water, load and waste load allocations are in the form of annual aqueous methylmercury loads. Waste load allocations and proportional contribution specific to the Department are not identified. Instead, each waste load allocation listed in the table below includes stormwater discharges from the Department's facilities and right-of-way within the corresponding urban areas.

***Final Methylmercury TMDL Compliance Deadlines:*** The final deadline is January 1, 2030.

**Delta Methylmercury Waste Load Allocations for Urban Stormwater Runoff within Each Delta Subarea**

| Urban Stormwater Permittees | NPDES Permit No. | Waste Load Allocation (grams per year) |
|---|---|---|
| County of Contra Costa | CAS083313 | 0.75 |
| City of Lodi | CAS000004 | 0.053 |
| Port of Stockton Municipal Separate Storm Sewer System | CAS084077 | 0.39 |
| County of San Joaquin | CAS000004 | 0.57 |
| Stockton Area Municipal Separate Storm Sewer System | CAS083470 | 3.6 |
| SUBTOTAL, Central Delta Watershed | | 5.4 |
| County of Contra Costa | CAS083313 | 0.30 |
| SUBTOTAL, Marsh Creek Watershed | | 0.30 |
| County of San Joaquin | CAS000004 | 0.016 |
| SUBTOTAL, Mokelumne River Watershed | | 0.016 |
| City of Rio Vista | CAS000004 | 0.0078 |
| Sacramento Area Municipal Separate Storm Sewer System | CAS082597 | 1.0 |
| County of San Joaquin | CAS000004 | 0.11 |
| County of Solano | CAS000004 | 0.041 |
| City of West Sacramento | CAS000004 | 0.36 |
| County of Yolo | CAS000004 | 0.041 |
| SUBTOTAL, Sacramento River Watershed | | 1.6 |
| City of Lathrop | CAS000004 | 0.097 |

| Urban Stormwater Permittees | NPDES Permit No. | Waste Load Allocation (grams per year) |
|---|---|---|
| Port of Stockton Municipal Separate Storm Sewer System | CAS084077 | 0.0036 |
| County of San Joaquin | CAS000004 | 0.79 |
| Stockton Area Municipal Separate Storm Sewer System | CAS083470 | 0.18 |
| City of Tracy | CAS000004 | 0.65 |
| SUBTOTAL, San Joaquin River Watershed | | 1.7 |
| County of Contra Costa | CAS083313 | 3.2 |
| SUBTOTAL, West Delta Watershed | | 3.2 |
| County of Solano | CAS00004 | 0.021 |
| City of West Sacramento | CAS00004 | 0.28 |
| County of Yolo | CAS00004 | 0.083 |
| SUBTOTAL, Yolo Bypass Watershed | | 0.38 |
| **TOTAL** | | **5.75** |

**The Department's Urban Runoff Methylmercury Load Allocations: Applicable where the Department's Storm Sewer System is Located Within a Delta Subarea but Outside the Jurisdiction of a Municipal Separate Storm Sewer System**

| Delta Subarea | Current Load (grams per year) | Allocation (grams per year) |
|---|---|---|
| Central Delta | 0.14 | 0.14 |
| Marsh Creek | | |
| MokelumneRiver | 0.018 | 0.018 |
| SacramentoRiver | 0.62 | 0.62 |
| San JoaquinRiver | 0.0022 | 0.0022 |
| West Delta | 0.066 | 0.066 |
| Yolo Bypass | | |

A9.7.4.6 Lahontan Region Sediment/Nutrients Total Maximum Daily Loads

*A9.7.4.6.1 Lake Tahoe Sediment and Nutrients Total Maximum Daily Load*

***Description:*** The Lahontan Water Board adopted the sediment and nutrients TMDL for Lake Tahoe, which was approved by U.S. EPA on August 16, 2011. Declining clarity in Lake Tahoe is attributed to an increase in fine sediment particles and algae production from nitrogen and phosphorus loading into the lake, primarily impacting recreational use. Urban runoff is the largest fine sediment particles source, contributing 72 percent of the sediment load. Implementation measures focus on reducing sediment loading from urban runoff sources, particularly roadways, and restoring streams and disturbed forest areas.

The Lake Tahoe sediment and nutrients TMDL requires identified responsible parties, including the Department, to meet pollutant load reduction requirements by developing and implementing a pollutant load reduction plan. This Order implements the TMDL by requiring the Department to submit the pollutant load reduction plan and to reduce fine sediment particle, total phosphorus, and total nitrogen loads in the Lake Tahoe TMDL watershed. This Order requires the Department's pollutant load reduction plan to demonstrate how the Department will reduce baseline fine sediment particles, total nitrogen, and total phosphorus loads by 34 percent, 21 percent, and 19 percent, respectively, by September 30, 2026. As required by the TMDL, this Order requires the Department to report reduction of pollutant loads and achievement of load percentage milestones.

***Final Waste Load Allocations and Contributions Specific to the Department:*** Specific contributions, waste load allocations, and load allocations are not identified for the Department. Instead, the Department's waste load allocations are grouped with the "urban upland" reductions that include the City of South Lake Tahoe, El Dorado County, and Placer County. In lieu of Department-specific waste load allocations, compliance with this Order is considered compliance with this TMDL. The table below provides the allocations for the urban upland group, and the corresponding required percent reduction.

**Sediment, Nitrogen, and Phosphorous Waste Load Allocations for Urban Upland Sources (million tons per year)**

| Constituent | Urban Upland Load | Percent Reduction by 2076 | Final Load by 2076 |
|---|---|---|---|
| Fine Sediment Particles | $2.5 \times 10^{20}$ | 71 | $1.8 \times 10^{20}$ |
| Nitrogen | 63 | 50 | 31.5 |
| Phosphorus | 18 | 43 | 8.28 |

***Final Compliance Deadline:*** The final compliance deadline is 65 years after the effective date of the TMDL, which is August 16, 2076.

*A9.7.4.6.2 Middle Truckee River Watershed Sediment Total Maximum Daily Load*

***Description:*** The Lahontan Water Board adopted the Middle Truckee River Watershed Sediment TMDL, which was subsequently approved by U.S. EPA on September 16, 2009. Excessive suspended sediment concentrations during high river flows impact the aquatic life beneficial uses. State highways run parallel, and in proximity, to the entire 39-mile reach of the Truckee River regulated by this TMDL. The Department's highway facilities in this watershed also include State Highway 89 from the outlet of Lake Tahoe to the Town of Truckee and Interstate 80 from the Town of Truckee to the California-Nevada state line.

***Final Waste Load Allocations and Contributions Specific to the Department:*** The TMDL does not assign a specific waste load allocation to the Department; therefore, proportional contributions for the Department are not identified. Instead, waste load allocations are collectively assigned to the three dischargers regulated under municipal stormwater permits, including the Department, Placer County, and the Town of Truckee. This group is referred to as "urban." Urban waste load allocations are identified by subwatershed, not by individual point sources. The combined waste load allocation to the urban areas is 4,936 tons per year. The TMDL requires land managers in the Truckee River watershed to implement and maintain management practices to control erosion and limit sedimentation to Truckee River and its tributaries. In lieu of waste load allocations, the Department's compliance with its NPDES stormwater permit is evidence of compliance with its responsibilities to achieve watershed conditions. The TMDL requires stormwater drainage system retrofitting, storm drain inlet cleaning, and submittal of abrasives and deicing agent usage.

***Final Sediment TMDL Compliance Deadline:*** The TMDL compliance deadline is May 2028.

A9.7.4.7 Santa Ana Region Nutrients and Mercury Total Maximum Daily Loads

*A9.7.4.7.1 Big Bear Lake Nutrients for Dry Hydrological Conditions Total Maximum Daily Load*

***Description:*** U.S. EPA approved this TMDL on September 25, 2007. Big Bear Lake was created by the 1884 construction of Bear Valley Dam. The lake's drainage basin is 37 square miles that includes more than 10 streams. Local stream runoff and precipitation are the sole source of water supply to the lake. The major inflows are creeks, including Rathbone Creek, Summit Creek, and Grout Creek. Outflow from the Lake is to Bear Creek, a tributary to the Santa Ana River. The beneficial uses include freshwater and wildlife habitat; recreation; municipal, domestic, and agriculture supply; and groundwater recharge. The lake is moderately eutrophic, and the limiting nutrient is generally phosphorus. Nutrients (nitrogen and phosphorus) are available in the water column and sediment. Nutrients are also bound in organic material, primarily macrophytes and algae.

***Final Waste Load Allocations:*** The Department's discharge is grouped with urban sources. For the urban group of municipal stormwater discharges regulated by NPDES permits, the annual average for the total phosphorus waste load allocation is 475 pounds per year. A Department-specific waste load allocation is not specified in the TMDL.

***Contributions Specific to the Department:*** The waste load allocation specific to the Department is 23 pounds per year for dry hydrological conditions, which is 4.8 percent of the group urban waste load allocation.

***Final Compliance Deadline****:* The final compliance deadline for the dry hydrological conditions for phosphorous is December 31, 2015. The final compliance deadline for other requirements in the TMDL is December 31, 2020.

*A9.7.4.7.2 Lake Elsinore and Canyon Lake Nutrients Total Maximum Daily Load*

***Description:*** The Santa Ana Water Board adopted the Lake Elsinore and Canyon Lake Nutrients TMDL, which was subsequently approved by U.S. EPA on September 30, 2005. Lake Elsinore and Canyon Lake are impaired due to excessive nutrients, namely phosphorous and nitrogen. Excessive levels of phosphorus and nitrogen cause high algal blooms that are detrimental to fish due to the reduction of dissolved oxygen. The beneficial uses impacted by excessive nutrients include aquatic habitat, recreation, and wildlife.

The Lake Elsinore and Canyon Lake TMDL requires compliance with an approved stormwater management plan, a watershed-wide monitoring program, annual compliance status reporting, and updates to compliance

plans as conditions warrant. In lieu of this watershed monitoring program, the TMDL allows the Department to choose to implement an individual monitoring plan. This Order implements the TMDL by requiring the Department to implement its approved stormwater management plan, to annually report compliance status with this TMDL, to update its plans as appropriate, and to monitor. The Lake Elsinore and Canyon Lake TMDL Task Force was formed to implement the requirements of the Lake Elsinore and Canyon Lake Nutrient TMDLs. The Department is a member of the Task Force and works jointly with other responsible agencies committed to monitoring actions, special studies, and implementation actions. The Task Force is coordinating watershed monitoring and development of proposed plans and schedules to meet TMDL requirements. On December 23, 2020, the Santa Ana Water Board provided the urban land use as 54,389 acres in the San Jacinto Watershed. On January 21, 2021, the Department provided its right-of-way acres in the Lake Elsinore sub-watershed as 1,540 acres. The Lake Elsinore TMDL allocations for urban, agriculture open/forest, septic systems and confined animal operations apply only to those land uses located downstream of Canyon Lake.

***Final Waste Load Allocations and Contributions Specific to the Department:*** The TMDL does not identify Department-specific waste load allocations or proportional contributions of nutrients. The waste load allocations are collectively assigned to all NPDES stormwater permittees and referred to as “urban” land uses. Allocations are specified as 10-year running averages. The final total nitrogen and total phosphorous waste load allocations for urban land uses are listed in the table below.

**Urban Land Use Waste Load Allocations (kilograms per year as 10-year running average)**

| Waterbody | Land Use | Final Total Phosphorus Waste Load Allocation | Final Total Nitrogen Waste Load Allocation |
|---|---|---|---|
| Canyon Lake | Urban | 306 | 3,974 |
| Lake Elsinore | Urban | 124 | 349 |

On December 23, 2020, the Santa Ana Water Board provided the urban land use acreage for the watershed of 54,389 acres. On January 21, 2021, the Department provided its right-of-way acres in the Lake Elsinore watershed as 1,540 acres (about 3 percent of the urban land use).Therefore, the Department-specific waste load allocations are approximately 3 percent of the urban land use values, as shown in the table, below.

**Department-Specific Waste Load Allocations as a Percent of Urban Land Use (kilograms per year as 10-year running average)**

| Waterbody | Final Total Phosphorus Waste Load Allocation | Final Total Nitrogen Waste Load Allocation |
|---|---|---|
| Canyon Lake | 9.2 | 119.2 |
| Lake Elsinore | 3.72 | 10.5 |

***Final Compliance Deadline:*** The final compliance deadline was December 31, 2020.

*A9.7.4.7.3 Rhine Channel Area of Lower Newport Bay Mercury*

***Description:*** On June 14, 2002, U.S. EPA established the TMDL for toxic pollutants in the Newport Bay watershed. The TMDL includes a numeric target for mercury in the Rhine Channel. The Rhine Channel is listed as impaired on the 1998 303(d) list. The pollutant levels in sediments and water have caused persistent sediment toxicity that exceed standards for human health protection, are associated with impacts to the benthic community, and are associated with bio accumulative effects to the food web.

***Final Waste Load Allocations Specific to the Department:*** The Santa Ana Water Board stated that waste load allocations were developed by dividing the available load by the various estimated proportions to land areas associated with the source categories, including the Department. The Department's allocation for chromium and mercury are identified as approximately three percent of the corresponding total loads; therefore, the Department's mercury waste load allocation is 0.0027 and chromium waste load allocation is 0.89 kilograms per year.

***Final Compliance Deadline:*** U.S. EPA established the TMDL on June 14, 2002. An implementation schedule was not included; therefore, the final compliance deadline was June 14, 2002.

*A9.7.4.8 San Diego Region Sediment and Nutrient Total Maximum Daily Load*

Historical loading of sediment to coastal wetlands within the San Diego Water Board jurisdiction has resulted in impacts to natural wetland functions. Excess deposition and movement of sediment within remaining coastal wetlands has greatly altered the natural conditions. Urbanized development of the watershed and the channel straightening has modified both the sediment supply and the ability of flows to transport sediments. Additionally, channelization of streams has cut off the banks and floodplains of natural rivers within these watersheds. Sediments carried in flows are not stored within the banks but are rather transported to the outlet of coastal estuaries where deposited. Recurring dredging operations

in coastal areas also affect sediment transport and deposition patterns in these watersheds. Wetland and estuarine habitats tend to be fragmented by existing roads, infrastructure and surrounding urbanized development.

In some watersheds in the San Diego Water Board jurisdiction, natural processes of erosion have been accelerated due to anthropogenic watershed disturbances, resulting in impairment of additional principally aquatic life and recreational beneficial uses, including Preservation of Rare and Endangered Species, Fish Migration, Fish Spawning, Wildlife Habitat, Estuarine Habitat, Marine Habitat, Water Contact Recreation, Noncontact Water Recreation and Navigation.

*A9.7.4.8.1 Los Penasquitos Lagoon Sediment Total Maximum Daily Load*

***Description:*** The San Diego Water Board adopted the Los Peñasquitos Lagoon Sediment TMDL; subsequently, U.S. EPA approved the TMDL on October 30, 2014. Excessive sediment loading within the lagoon affects beneficial uses, including estuarine habitat and preservation of biological habitats of special significance. The excessive sedimentation reduces tidal mixing in lagoon channels, degrades and causes net loss of saltmarsh vegetation, increases risk of flooding, and increases turbidity.

***Final Waste Load and Contributions Specific to the Department:*** The Los Peñasquitos Lagoon Sediment TMDL assigns an aggregate waste load allocation of 2,580 tons per year for all combined point sources, including the Department. The TMDL identifies the Department as a responsible party and states that the San Diego Water Board expects responsible parties to cooperate in load reduction and monitoring to achieve compliance with the sediment TMDL. In accordance with the sediment TMDL, Attachment D of this Order requires the Department to monitor, implement sediment best management practices, and to report. San Diego Water Board staff provided the sediment proportional responsibility that is calculated as a ratio of the Department's right-of-way acres (1,116 acres) to watershed acres (60,000 acres) multiplied by the total waste load allocation. The Department's sediment waste load allocation is 48 tons per year, as calculated below:

**48 Tons per Year = [(1,116 right-of-way acres) divided by (60,000 watershed acres)] *times* [(2,580 tons per year)]**

Compliance with the sediment waste load allocation is achieved through implementation of sediment best management practices. For compliance with monitoring requirements, the TMDL states that "responsible parties are encouraged to collaborate or coordinate with other regional and local monitoring programs to avoid duplication and reduce associated costs." This Order requires the Department to either self-monitor or participate in

regional and local monitoring programs. Sediment monitoring requirements are provided in Attachment F of this Order.

***Final Compliance Deadline*:** The final sediment TMDL compliance deadline is October 30, 2034.

*A9.7.4.8.2 Rainbow Creek Total Nitrogen and Total Phosphorus Total Maximum Daily Load*

***Description:*** The San Diego Water Board adopted the Rainbow Creek Total Nitrogen and Total Phosphorus TMDL to address the nutrient impairments.; subsequently, U.S. EPA approved the TMDL on March 22, 2006. Rainbow Creek was placed on the 303(d) list of "water quality limited" water bodies in 1996 because nutrient concentrations in the water body did not meet the objective for nitrates in municipal supply or the numeric goals for biostimulator substances. Additionally, elevated nutrient concentrations have caused excessive algal growth.

***Final Waste Load Allocations and Contributions Specific to the Department.*** The Department's mass load contributions are 200 kilograms total nitrogen per year and 14 kilograms total phosphorous per year, which represent 4 percent of the land use, specifically from Interstate I-15 runoff. The Department-specific total phosphorous waste load allocation is 5 kilograms per year. The Department-specific total nitrogen allocation is 49 kilograms per year.

***Final Compliance Deadline:*** The final compliance deadline for the TMDL is December 31, 2021.

*A9.7.5 Pollutant Category—Metals/Toxics/Pesticides Total Maximum Daily Load*

***General Description of Pollutant Category*:** Toxic pollutants, including metals (i.e., copper, zinc, lead, cadmium, nickel, chromium, and selenium), pesticides (e.g., diazinon, dichlorodiphenyltrichloroethane, and dichlorodiphenyldichloroethylene), polycyclic aromatic hydrocarbons, and polychlorinated biphenyls (PCBs) cause impairments to California's water quality.

***Sources of Pollutants and How Pollutants Enter the Waterway:*** The main transport mechanism for these pollutants is through fine sediment. When contaminated fine sediments wash off the roadways and through storm drains or to surface waters, they resuspend in the water column and become bioavailable.

A source of pesticides is from agricultural and urban runoff and from application along roadways. A source of PCBs is aging components found in structures and equipment installed prior to that compounds ban in the late nineteen seventies. A source of toxic metals is from the mechanical

components of automobiles, especially those that are subjected to frictional stresses (i.e., copper from brake pads and zinc from synthetic rubber tires). Some toxic metals are also present in petroleum-based lubricants and in gasoline and diesel fuel (i.e., cadmium)

***Contributions Specific to the Department:*** The Department is identified as a source of toxic pollutants because it owns and operates the roadways that act as a conveyance system for the transport of toxics adhering to fine sediments. However, the models that were used to develop TMDLs relied on the percentage of land use to determine waste load allocations, showing that in most cases the Department makes up a relatively minor load for toxic pollutants.

***Control Measures:*** Control measures include implementing an integrated pest management program, preventing the use of diazinon, implementing a PCB component removal process, dredging contaminated sediment, and treating the fine sediment to remove PCBs, pesticides, and metals adhered to the sediment.

A9.7.5.1 San Francisco Bay Region Toxics Total Maximum Daily Loads

*A9.7.5.1.1 San Francisco Bay Polychlorinated Biphenyls Total Maximum Daily Load*

***Description:*** On March 29, 2010, U.S. EPA approved the San Francisco Bay Polychlorinated Biphenyls (PCBs) TMDL that was developed and adopted by the San Francisco Bay Water Board. All segments of the San Francisco Bay have been identified as impaired by elevated levels of PCBs in sport fish, with neither the narrative nor the numeric water quality objectives attained. The existing beneficial use for commercial and sport fishing is not fully supported. This TMDL identifies stormwater runoff as a major source of PCB transport and includes the Department's roadways, non-roadway facilities, and right-of-way.

The San Francisco Bay Polychlorinated Biphenyl TMDL includes loads and allocations that are grouped together as "urban stormwater." The TMDL requires that best management practices and control measures be used to reduce polychlorinated biphenyls in urban stormwater runoff, which includes a schedule and implementation of technically feasible, effective, and cost-efficient control measures to attain allocations. The TMDL states that treatment controls may be implemented within the Department's right-of-way or in source areas. For example, treatment controls may be implemented in areas managed by municipalities, local agencies, or private entities to which runoff from Department's right-of-way is discharged. A Department-specific allocation was not provided in the TMDL.

On October 21 and December 29, 2020, the San Francisco Bay Water Board staff provided clarification about the allocations: polychlorinated biphenyl treatment needs are satisfied through the treatment acres calculated for mercury (i.e., 2,970 acres of right-of-way). Further, atmospheric deposition distributes mercury (but not polychlorinated biphenyls) relatively uniformly across Bay Area watersheds; and atmospherically deposited mercury constitutes a large percentage of the mercury found in all urban runoff. Further, polychlorinated biphenyls shall be targeted through the specific choice of treatment locations because higher credit will be given for polychlorinated biphenyl projects in more contaminated land use areas. This is an incentive for projects that benefit both mercury and polychlorinated biphenyl load reductions. For polychlorinated biphenyl treatment implemented in old industrial land use areas, the Department shall receive a credit of three times that of mercury. The ratio of the polychlorinated biphenyl yield from old industrial to old urban is 86:30 (approximately 3:1) versus the ratio of these land uses for mercury of 1300:215, or 6:1. Therefore, applying the 3:1 mercury ratio to polychlorinated biphenyls is conservative since a higher ratio could be justified. The reference for these ratios is found in the March 23, 2017 report, Interim Accounting Methodology for TMDL Loads Reduced, that was prepared for the Bay Area Stormwater Management Agencies Association. Consequently, achieving specific mercury load reductions is an appropriate driver for deriving areal treatment requirements because mercury will be found in all the Department's runoff while polychlorinated biphenyls are primarily concentrated in certain old industrial land uses, may not be.

In addition to land uses, polychlorinated biphenyl sources also include polychlorinated biphenyl-containing caulk in existing roadways.

***Final Waste Load Allocations and Contributions Specific to the Department:*** All stormwater runoff sources share a two kilogram per year waste load allocation. A Department-specific contribution is not specified. This Order requires that polychlorinated biphenyl-containing caulk in existing roadways be removed prior to roadway rehabilitation in accordance with the Department's standard operating procedures for this material.

The polychlorinated biphenyl TMDL requires monitoring by participation in a regional program or by self-implementing a program. This Order requires the department to select a monitoring option to either participate in the San Francisco Bay Regional Monitoring Program or to develop and implement an equivalent self-monitoring program.

***Final Compliance Deadline:*** The final compliance deadline for the waste load allocation of two kilograms/year is March 29, 2030.

*A9.7.5.1.2 San Francisco Bay Urban Creeks Diazinon and Pesticide Toxicity Total Maximum Daily Load*

***Description:*** U.S. EPA approved the San Francisco Bay Urban Creeks Diazinon and Pesticide Toxicity TMDL on May 16, 2007, which had been developed and adopted by the San Francisco Water Board. In the San Francisco Bay area, 37 urban creeks are identified as impaired due to pesticide-related toxicity attributed to diazinon. The San Francisco Bay Water Board established the TMDLs for the impaired creeks to reduce excessive loading of pollutants from stormwater and other point source discharges. Pesticides used for commercial and residential uses enter urban creeks via urban stormwater runoff and dry weather discharges through storm drains. Discharges from publicly and privately-owned storm drains are regulated by NPDES stormwater permits. NPDES stormwater permittees include the Department, municipalities, industrial, and construction stormwater dischargers.

***Final Pesticide Toxicity Waste Load Allocations (Numeric Targets):*** The TMDL sets numeric targets for pesticide-related acute and chronic toxicity in urban creek waters and sediment. The targets require that toxicity not exceed 1.0 acute or chronic toxic units, as determined through standard toxicity tests. In addition, diazinon concentrations in the water column must not exceed 100 nanograms per liter as a one-hour average. The TMDL targets are allocated to all urban runoff, including urban runoff associated with municipal separate storm sewer systems, the Department, and industrial, construction, and institutional sites. Allocations are set equal to the targets and are required to be met at all urban creek locations, including those near storm drain outfalls where urban runoff enters receiving waters.

***Contributions Specific to the Department:*** The Department is required to meet the allocations expressed as the term “targets” above, at all urban creek locations, including those near storm drain outfalls where urban runoff enters receiving waters.

***Final Compliance Deadline:*** A final compliance deadline is not specified. The San Francisco Bay Water Board plans to review the attainment strategy and TMDL targets every five years to determine if compliance modifications are necessary.

A9.7.5.2 Los Angeles Region Metals and Toxicity Total Maximum Daily Loads

*A9.7.5.2.1 Ballona Creek Metals Total Maximum Daily Load*

***Description:*** The Ballona Creek Metals TMDL was adopted by the Los Angeles Water Board and subsequently approved by U.S. EPA on December 22, 2005. It was revised by the Los Angeles Water Board, which was approved by the U.S. EPA on October 26, 2015. The revised TMDL states that "recent data indicate that selenium is not present at levels exceeding existing numeric targets and is not impairing the designated beneficial uses. Therefore, a TMDL for selenium is not included." Ballona Creek is impaired due to elevated levels of copper, lead, selenium, and zinc. The TMDL identifies stormwater as a significant contributor to metals loadings in both dry weather and wet weather. Pollutant loadings are derived from urban run-off conveyed via municipal storm drains regulated through NPDES stormwater permits.

***Final Waste Load Allocations:*** Stormwater allocations are divided among the NPDES stormwater permittees, including the Department, other municipal separate storm sewer system permittees and industrial and construction stormwater permittees.

***Contributions Specific to the Department:*** The Department is assigned separate dry-weather and wet-weather waste load allocations as provided in the two tables below.

**Department-Specific Dry-Weather Waste Load Allocations, Total Recoverable Metals (grams per day)**

| Pollutant | Ballona Creek | Sepulveda Canyon Channel |
|---|---|---|
| Copper | 19.6 | 7.3 |
| Lead | 10.8 | 4.0 |
| Zinc | 246.2 | 91.3 |

**Department-Specific Wet-Weather Waste Load Allocations, Total Recoverable Metals (grams per day)**

| Metal | Department |
|---|---|
| Copper | $1.806 \times 10^{-7}$ multiplied by the daily storm volume in liters |
| Lead | $1.012 \times 10^{-6}$ multiplied by the daily storm volume in liters |
| Zinc | $1.381 \times 10^{-6}$ multiplied by the daily storm volume in liters |

***Final Compliance Deadline:*** The final compliance deadline is January 11, 2021.

*A9.7.5.2.2 Ballona Creek Estuary Toxic Pollutants Total Maximum Daily Load*

***Description:*** The Los Angeles Water Board developed and adopted the Ballona Creek Estuary Toxic Pollutants TMDL; subsequently, U.S. EPA approved the revised TMDL on October 26, 2015. Ballona Creek and Ballona Creek Estuary are on the Clean Water Act section 303(d) list as impaired waterbodies for cadmium, copper, lead, silver, zinc, chlordane, dichlorodiphenyltrichloroethane (DDT), PCBs, polycyclic aromatic hydrocarbons, and toxicity in sediments. A primary source of pollutants has been identified as stormwater. Specifically, urban stormwater has been recognized as a substantial source of metal discharges because metals are typically associated with fine particles in stormwater runoff, they have the potential to accumulate in estuarine sediments where they may pose a risk of toxicity.

***Final Grouped Mass-Based Waste Load Allocations:*** Waste load allocations are assigned to the point sources, which are grouped together. Grouped mass-based waste load allocations are assigned for NPDES stormwater permittees, which includes the Department, Los Angeles County, and NPDES General Construction and General Industrial stormwater permittees in the watershed. The tables below provide the grouped waste load allocations for metals and organics.

**Grouped Mass-Based Metal Waste Load Allocations for Stormwater**

| Units | Cadmium | Copper | Lead | Silver | Zinc |
|---|---|---|---|---|---|
| Kilograms per year | 8.4 | 238.8 | 328 | 7.02 | 1,054 |

**Grouped Organics Waste Load Allocations for Stormwater (kilograms per year)**

| Source | Chlordane | Dichlorodiphenyl-trichloroethane | Total Polychlorinated Biphenyls |
|---|---|---|---|
| Grouped waste load allocation | 9.13 | 13.35 | 22.48 |

***Final Metals and Organics Waste Load Allocations Specific to the Department:*** Stormwater waste load allocations are also apportioned between the municipal separate storm sewer permittees based on an aerial weighting approach. The two tables below show the waste load allocations apportioned to the Department for metals and for organics.

**Department-Specific Stormwater Waste Load Allocations (kilograms per year)**

| Cadmium | Copper | Lead | Silver | Zinc |
|---|---|---|---|---|
| 0.11 | 3.2 | 4.4 | 0.09 | 14 |

**Department-Specific Stormwater Waste Load Allocations (grams per year)**

| Total Chlordane | Total Dichlorodiphenyltrichloroethane | Total Polychlorinated Biphenyls |
|---|---|---|
| 0.12 | 0.18 | 0.30 |

***Final Compliance Deadline:*** The final compliance deadline is January 11, 2025.

*A9.7.5.2.3 Calleguas Creek Organochlorine Pesticides, Polychlorinated Biphenyls, and Silt Total Maximum Daily Load*

***Description:*** The Los Angeles Water Board adopted the Calleguas Creek Organochlorine Pesticides, Polychlorinated Biphenyls, and Silt TMDL that was subsequently approved by U.S. EPA on March 14, 2006. Eleven reaches in the Calleguas Creek Watershed were identified on the 303(d) list as impaired due to elevated levels of organochlorine pesticides and/or polychlorinated biphenyls in water, sediment, and/or fish tissue. Additionally, Mugu Lagoon was listed as impaired for sedimentation and siltation, organochlorine pesticides, and polychlorinated biphenyls. Organochlorine pesticides and polychlorinated biphenyls bioaccumulate in fish tissue and cause toxicity to aquatic life in estuarine and inland waters. Siltation transports organochlorine pesticides and polychlorinated biphenyls to surface waters and causes impairment to aquatic life and wildlife habitats. The TMDL states that urban runoff is a minor sources of organochlorine pesticides and polychlorinated biphenyls.

***Waste Load Allocations:*** The TMDL requires that stormwater waste load allocations be incorporated into the NPDES stormwater permit as receiving water limits measured at the downstream points of each subwatershed and are expected to be achieved through the implementation of best management practices as outlined in an implementation plan.

***Final Siltation Waste Load Allocations:*** The final siltation waste load allocations for municipal separate storm sewer system discharges, including the Department's discharges, is 2,496 tons per year.

***Final Organochlorine Pesticides and Polychlorinated Biphenyls in Sediment Waste Load Allocations:*** In accordance with U.S. EPA current practice, a group concentration-based waste load allocation has been developed for municipal separate storm sewer systems, including the Department's system. (There is no Department-specific waste load allocation.) This grouped allocation applies to all NPDES regulated municipal stormwater discharges in the Calleguas Creek Watershed. The TMDL states that compliance with sediment-based waste load allocations is measured as an in-stream annual average at the base of each subwatershed where discharges are located.

**Final Waste Load Allocations for Organochlorine Pesticides and Polychlorinated Biphenyls in Sediment for Stormwater Permittees (nanogram per gram)**

| Pollutant | Mugu Lagoon | Calleguas Creek | Revolon Slough | Arroyo Las Posas | Arroyo Simi | Conejo Creek |
|---|---|---|---|---|---|---|
| Total Chlordane | 3.3 | 3.3 | 0.9 | 3.3 | 3.3 | 3.3 |
| 4,4-DDD | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| 4,4-DDE | 2.2 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 |
| 4,4-DDT | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| Dieldrin | 4.3 | 0.2 | 0.1 | 0.2 | 0.2 | 0.2 |
| Total PCBs | 180.0 | 120.0 | 130.0 | 120.0 | 120.0 | 120.0 |
| Toxaphene | 360.0 | 0.6 | 1.0 | 0.6 | 0.6 | 0.6 |

Table Legend:
DDD = Dichlorodiphenyldichloroethane
DDE = Dichlorodiphenyldichloroethylene
DDT = Dichlorodiphenyltrichloroethane
PCBs = Polychlorinated Biphenyls

***Final Compliance Deadline:*** The final compliance deadline is March 24, 2026.

*A9.7.5.2.4 Calleguas Creek, its Tributaries and Mugu Lagoon Metals Total Maximum Daily Loads*

**Description:** The TMDL for Metals and Selenium in the Calleguas Creek and its Tributaries and Mugu Lagoon was adopted by the Los Angeles Water Board and was approved by U.S. EPA on March 26, 2007. It was revised on October 13, 2016, which was approved by the U.S. EPA on June 9, 2017. Revolon Slough, Calleguas Creek Reach 2, and Mugu Lagoon are included on the State's 303(d) List for metals (copper, nickel, and mercury) and selenium. Significant sources are identified as urban

runoff, agricultural runoff, and publicly owned treatment works effluent. The Department's contribution is grouped in with "permitted stormwater dischargers," which is the urban runoff group. The Calleguas Creek Watershed is approximately 218,441 acres, of which a combined total of 5,000 acres (2 percent) are attributed to transportation and utilities.

***Final Metals Waste Load Allocations:*** The TMDL provides group waste load allocations for stormwater discharges. The TMDL requires that the waste load allocation be incorporated as receiving water limits measured in-stream at the base of Revolon Slough and Calleguas Creek, and in Mugu Lagoon and will be achieved through the implementation of best management practices.

The TMDL's final waste load allocations are mass-based for both dry-weather and wet-weather conditions. The dry-weather waste load allocations apply to days when flows in the stream are less than the 86$^{th}$ percentile flow rate for each reach. The wet-weather waste load allocations apply to days when flows in the stream exceed the 86$^{th}$ percentile flow rate for each reach. Dry weather limits are based on chronic California Toxics Rule criteria. Wet weather limits are based on acute California Toxics Rule criteria. The tables below provide the waste load allocations. A water effect ratio is applied to copper. The water effect ratio defaults to a value of one unless a site-specific study is approved.

***Contribution Specific to the Department:*** The TMDL states that waste load allocations shall be incorporated into stormwater permits as receiving water limits measured in-stream at the base of Revolon Slough and Calleguas Creek, and in Mugu Lagoon and will be achieved through the implementation of best management plans. State Water Board staff concludes that it is infeasible to provide Department-specific waste load allocations as receiving water limits, and that Department compliance is best demonstrated through participation in group compliance activities.

***Final Metals TMDL Compliance Deadlines:*** The final metals TMDL compliance deadline is March 26, 2022, which is 15 years after the effective date of the TMDL.

**Final Dry-Weather Waste Load Allocations as Receiving Water Limits, Total Recoverable Metals in Water Column (pounds per day)**

| Location and Flow | Copper | Nickel |
|---|---|---|
| Calleguas and Conejo Creek, Low Flow | 0.04 × WER -0.02 | 0.100 |
| Calleguas and Conejo Creek, Average Flow | 0.12 × WER -0.02 | 0.120 |
| Calleguas and Conejo Creek, Elevated Flow | 0.18 × WER -0.03 | 0.440 |
| Revolon Slough, Low Flow | 0.03 × WER -0.01 | 0.050 |
| Revolon Slough, Average Flow | 0.06 × WER -0.03 | 0.069 |
| Revolon Slough, Elevated Flow | 0.13 × WER -0.02 | 0.116 |

**Final Wet-Weather Waste Load Allocations as Receiving Water Limits, Total Recoverable Metals in Water Column (pounds per day)**

| Constituent | Calleguas Creek | Revolon Slough |
|---|---|---|
| Copper[1] | $(0.00054 \times Q^2 \times 0.032 \times Q - 0.17) \times WER - 0.06$ | $(0.0002 \times Q^2 + 0.0005 \times Q) \times WER$ |
| Nickel[2] | $0.014 \times Q^2 + 0.82 \times Q$ | $0.027 \times Q^2 + 0.47 \times Q$ |

Table Legend:

WER =water effect ratio.
Q =Daily storm flow rate (cubic feet per second).
$Q^2$ = Square of daily storm volume

Table Notes:

1 The water effect ratio of 1.51 for Mugu Lagoon is used to calculate the assigned waste load allocations for discharges to Calleguas and Conejo Creek. Permitted stormwater dischargers may apply a water effect ratio of up to 3.69 for discharges to upstream reaches (except for Reaches 4 and 5) to calculate the assigned waste load allocations. If a water effect ratio of greater than 1.51 is applied, permitted stormwater dischargers shall be required to provide a quantitative analysis to demonstrate that the waste load allocations as modified by the water effect ratio are protective of downstream reaches. No site-specific water effect ratio for Revolon Slough was approved, so default water effect ratio of 1 is applied.

2 Regardless of the final water effect ratios, total copper loading shall not exceed current loading.

*A9.7.5.2.5 Colorado Lagoon Organochlorine Pesticides, Polychlorinated Biphenyls, Sediment Toxicity, Polycyclic Aromatic Hydrocarbons and Metals Total Maximum Daily Load*

***Description:*** The Colorado Lagoon Organochlorine Pesticides, Polychlorinated Biphenyls, Sediment Toxicity, Polycyclic Aromatic Hydrocarbons, and Metals TMDL was approved by U.S. EPA on June 14, 2011. The TMDL is calculated to protect and restore fish tissue and sediment quality by controlling the contaminated sediment loading and accumulation in the lagoon. Primary sources for contaminants are attributed to urban and stormwater runoff. The Colorado Lagoon watershed is divided into five subbasins, and each subbasin is served by a major storm sewer line that conveys runoff to the lagoon. To address sediment waste load allocations, urban and stormwater discharges are grouped. The Department and the City of Long Beach are responsible for sediment from one storm line. Waste load allocations are expressed as mass-based and as concentration-based.

***Final Waste Load Allocations and Contributions Specific to the Department:*** The Department and the City of Long Beach are each responsible for achieving the sediment waste load allocations assigned to the Line I Storm Drain because the drain conveys stormwater from both entities. Sediment allocations are assigned as mass-based waste load allocations. The Department is jointly responsible with the City of Long Beach in attaining final mass-based waste load allocations for lead and zinc in sediment conveyed to Colorado Lagoon via the Line I Storm Drain.

***Final Concentration-Based Sediment Waste Load Allocations:*** Compliance with the sediment concentration-based waste load allocations for Colorado Lagoon are determined from the lagoon sediment at points in the West Arm, North Arm, and Central Arm that represent the cumulative inputs from the storm sewer system drainage system to the lagoon.

***Contribution Specific to the Department:*** The Department's relative contribution to the organochlorine pesticides, polychlorinated biphenyls, and polycyclic aromatic hydrocarbons, lead, and zinc is expressed through the Department-specific waste load allocations in the two tables, above.

***Final Compliance Deadline:*** The final compliance deadline for final waste load allocations was July 28, 2018.

**Department-Specific Final Mass-Based Sediment Waste Load Allocations**

| Constituent | Line I Storm Drain (milligrams per year) |
|---|---|
| Dieldrin | 0.15 |
| Chlordane | 3.65 |

| Constituent | Line I Storm Drain (milligrams per year) |
|---|---|
| Dichlorodiphenyltrichloroethane | 11.52 |
| Polychlorinated biphenyls | 165.49 |
| Polycyclic aromatic hydrocarbons | 29,321.50 |
| Lead | 340,455.99 |
| Zinc | 1,093,541.72 |

**Department-Specific Final Concentration-Based Sediment Waste Load Allocations**

| Constituent | Final Waste Load Allocation (micrograms per dry kilogram) |
|---|---|
| Dieldrin | 0.02 |
| Chlordane | 0.50 |
| DDT | 1.58 |
| Polychlorinated biphenyls | 22.7 |
| Polycyclic aromatic hydrocarbons | 4,022.00 |
| Lead | 46,700.00 |
| Zinc | 150,000.00 |

*A9.7.5.2.6 Dominguez Channel and Greater Los Angeles and Long Beach Harbor Toxic Pollutants Total Maximum Daily Load*

***Description:*** U.S. EPA approved the Dominguez Channel and Greater Los Angeles and Long Beach Harbor Toxic Pollutants TMDL on March 23, 2012. The waters of Dominguez Channel and the Greater Los Angeles and Long Beach Harbor area are impaired by heavy metals and organic pollutants. Specific pollutants include cadmium, chromium, copper, mercury, lead, zinc, chlordane, dieldrin, toxaphene, dichlorodiphenyltrichloroethane (DDT), polychlorinated biphenyls (PCBs), and certain polycyclic aromatic hydrocarbons. A primary source of pollutants is stormwater and urban runoff, which are regulated under NPDES stormwater permits. The Department is included in this category.

***Final and Interim Toxicity Waste Load Allocations:*** Final waste load allocations are assigned to stormwater discharges, including the Department's system. Dominguez Channel freshwater allocations are set for wet weather only because exceedances have only been observed in wet weather. Mass-based allocations have been set where enough data was available to calculate mass-based allocations; otherwise, concentration-based allocations have been set.

An interim freshwater toxicity allocation of 2 chronic toxicity units applies to all point sources to Dominguez Channel during wet weather, including the Department. A final freshwater toxicity allocation of 1 chronic toxicity unit applies to all point sources to Dominguez Channel during wet weather, including the Department.

***Final Waste Load Allocations (by sediment):*** The sediment waste load allocations for the Dominguez Channel Estuary and greater Los Angeles and Long Beach Harbor waters are assigned to stormwater discharges based on the 95$^{th}$ percentile of sediment data collected from 1998-2006. The final mass-based allocations for polycyclic aromatic hydrocarbons are expressed as an annual loading (kilograms per year) of pollutants in the sediment deposited to the Dominguez Channel Estuary, Los Angeles River Estuary, and the Greater Los Angeles and Long beach Harbor Waters. The final mass-based allocations for total dichlorodiphenyltrichloroethane and total polychlorinated biphenyls are expressed as annual loading (grams per year) of pollutants in the sediment deposited to the Dominguez Channel Estuary, Los Angeles River Estuary, and the Greater Los Angeles and Long Beach Harbor Waters.

**Department's Interim Sediment Toxic Pollutants Waste Load Allocations (milligrams per kilogram sediment)**

| Waterbody | Total PAHs | Total DDTs | Total PCBs |
|---|---|---|---|
| Dominguez Channel Estuary | 31.60 | 1.727 | 1.490 |
| Long Beach Inner Harbor | 4.58 | 0.070 | 0.060 |
| Los Angeles Inner Harbor | 90.30 | 0.341 | 2.107 |
| Long Beach Outer Harbor (inside breakwater) | 4,022 | 0.075 | 0.248 |
| Los Angeles Outer Harbor (inside breakwater) | 4,022 | 0.097 | 0.310 |
| Los Angeles River Estuary | 4.36 | 0.254 | 0.683 |
| San Pedro Bay Near/Offshore Zones | 4,022 | 0.057 | 0.193 |
| Los Angeles Harbor - Cabrillo Marina | 36.12 | 0.186 | 0.199 |
| Los Angeles Harbor -Consolidated Slop | 386.00 | 1.724 | 1.920 |
| Cabrillo Beach Area | 4,022 | 0.145 | 0.033 |
| Fish Harbor | 2102.7 | 40.5 | 36.6 |

Table Legend:
PAHs=Polycyclic aromatic hydrocarbons.
PCBs=Polychlorinated biphenyls.
DDT =Dichlorodiphenyltrichloroethane

**Department's Final Sediment Toxic Pollutants Waste Load Allocations**

| Waterbody | Total PAHs (kilograms per year) | Total DDTs (grams per year) | Total PCBs (grams per year) |
|---|---|---|---|
| Dominguez Channel Estuary | 0.0023 | 0.004 | 0.004 |

| Waterbody | Total PAHs (kilograms per year) | Total DDTs (grams per year) | Total PCBs (grams per year) |
|---|---|---|---|
| Consolidated Slip | 0.00009 | 0.00014 | 0.00006 |
| Inner Harbor | 0.0017 | 0.0010 | 0.0011 |
| Outer Harbor | 0.00021 | 0.000010 | 0.00004 |
| Fish Harbor | 0.000021 | 0.0000010 | 0.000006 |
| Cabrillo Marina | 0.0000016 | 0.00000028 | 0.00000024 |
| San Pedro Bay | 0.077 | 0.002 | 0.019 |
| Los Angeles River Estuary | 0.333 | 0.014 | 0.047 |

Table Legend:
PAHs=Polycyclic aromatic hydrocarbons.
PCBs=Polychlorinated biphenyls.
DDT =Dichlorodiphenyltrichloroethane

**Department's Final Concentration-Based Sediment Waste Load Allocations for Chlordane, Dieldrin, and Toxaphene (micrograms per kilogram in dry sediment)**

| Total Chlordane | Dieldrin | Toxaphene |
|---|---|---|
| 0.5 | 0.02 | 0.10 |

***Department-Specific Contribution:*** The Department's relative contribution to the toxic pollutant loading is provided in the tables above.

***Final Waste Load Allocations for Metals:*** Interim and final waste load allocations for copper, lead, and zinc are assigned to stormwater dischargers including those from the Department's system. Freshwater allocations for Dominguez Channel are set for wet weather only because exceedances have only been observed in wet weather. Wet weather conditions in Dominguez Channel and all its upstream tributaries apply to any day when the maximum daily flow is greater than 62.7 cubic feet per second at any point in Dominguez Channel. Mass-based allocations have been set where enough data were available to calculate mass-based allocations; otherwise, waste load allocations are concentration-based. Fish Harbor is impaired for mercury in sediments. Dominguez Channel Estuary is impaired for cadmium in sediments. These waterbodies are assigned no interim waste load allocations but are assigned final concentration-based waste load allocations.

Note - The Department is not named as a responsible party for waste load allocations to Consolidated Slip.

***Interim Metals Waste Load Allocations:*** Interim allocations for Dominguez Channel and Torrance Lateral are assigned to stormwater dischargers, including the Department, and are based on the 95$^{th}$

percentile of total metals data collected from January 2006 to January 2010 using a log-normal distribution. Interim sediment allocations for Dominguez Channel Estuary and greater Los Angeles and Long Beach Harbor waters are assigned to stormwater discharges based on the 95$^{th}$ percentile of sediment data collected from 1998-2006.

**Interim Concentration-based Waste Load Allocations Lead and Zinc at Dominguez Channel and Torrance Lateral (micrograms per liter)**

| Total Copper | Total Lead | Total Zinc |
|---|---|---|
| 207.51 | 122.88 | 898.87 |

**Interim Concentration-based Sediment Allocations for Copper, Lead, and Zinc (milligrams per kilogram sediment)**

| Waterbody | Copper | Lead | Zinc |
|---|---|---|---|
| Dominguez Channel Estuary | 220.0 | 510.0 | 789.0 |
| Long Beach Inner Harbor | 142.3 | 50.4 | 240.6 |
| Los Angeles Inner Harbor | 154.1 | 145.5 | 362.0 |
| Long Beach Outer Harbor | 67.3 | 46.7 | 150 |
| Los Angeles Outer Harbor | 104.1 | 46.7 | 150 |
| Los Angeles River Estuary | 53.0 | 46.7 | 183.5 |
| San Pedro Bay | 76.9 | 66.6 | 263.1 |
| Cabrillo Marina | 367.6 | 72.6 | 281.8 |
| Consolidated Slip | 1470.0 | 1100.0 | 1705.0 |
| Cabrillo Beach Area | 129.7 | 46.7 | 163.1 |
| Fish Harbor | 558.6 | 116.5 | 430.5 |

***Wet-Weather Freshwater Metals Waste Load Allocations Specific to the Department:*** Wet-weather freshwater metals allocations are assigned to Dominguez Channel and all its upstream reaches and tributaries above Vermont Avenue. Mass-based (grams per day) waste load allocations

were divided between the Department and other municipal separate storm sewer system permittees.

**The Department's Final Freshwater Mass-based Waste Load Allocation at Dominguez Channel during Wet-Weather (grams per day)**

| Total Copper | Total Lead | Total Zinc |
|---|---|---|
| 32.3 | 142.6 | 232.6 |

***Torrance Lateral Sub-Watershed Metals Waste Load Allocations Specific to the Department:*** For the Torrance Lateral sub-watershed, concentration-based freshwater waste load allocations for both water and sediment are assigned to all dischargers, including the Department. Metals targets used to calculate these waste load allocations were based on an assumed hardness of 50 mg/L and 90$^{th}$ percentile annual flow rates.

**The Department's Final Concentration-based Waste Load Allocations for Torrance Lateral**

| Media (units) | Total Copper | Total Lead | Total Zinc |
|---|---|---|---|
| Water (micrograms/liter, unfiltered) | 9.7 | 42.7 | 69.7 |
| Sediment (milligrams/kilogram, dry) | 31.6 | 35.8 | 121 |

***Final Metals Waste Load Allocations***: The final mass-based allocations for metals are expressed as an annual loading (kilograms per year) of pollutants in the sediment deposited to the Dominguez Channel Estuary, Los Angeles River Estuary, and the Greater Los Angeles and Long Beach Harbor Waters. The final waste load allocations are:

**Final Mass-based Metal Waste Load Allocations for Dominguez Channel and Los Angeles River Estuaries and Long Beach Harbor Waters (kilograms per year)**

| Reach | Total Copper | Total Lead | Total Zinc |
|---|---|---|---|
| Dominguez Channel Estuary | 0.384 | 0.93 | 4.7 |
| Consolidated Slip | 0.043 | 0.058 | 0.5 |
| Inner Harbor | 0.032 | 0.641 | 2.18 |
| Outer Harbor | 0.0018 | 0.052 | 0.162 |
| Fish Harbor | 0.0000005 | 0.00175 | 0.0053 |
| Cabrillo Marina | 0.00019 | 0.0028 | 0.007 |
| San Pedro Bay | 0.88 | 2.39 | 9.29 |

| Reach | Total Copper | Total Lead | Total Zinc |
|---|---|---|---|
| Los Angeles River Estuary | 5.1 | 9.5 | 34.8 |

**Final Concentration-based Sediment Waste Load Allocations for Other Metals, Dry Sediment (milligrams per kilogram)**

| Reach | Cadmium | Chromium | Mercury |
|---|---|---|---|
| Dominguez Channel Estuary | 1.2 | | |
| Fish Harbor | | | 0.15 |

***Final Compliance Deadlines:*** The Department's compliance deadline for the prescribed interim waste load allocations was March 23, 2012. The final compliance deadline for all final waste load allocations is March 23, 2032.

*A9.7.5.2.7 Los Angeles Area Lakes, Echo Park Lake, Chlordane and Dieldrin, Total Maximum Daily Load*

***Description:*** U.S. EPA established the Echo Park Lake TMDL for chlordane and dieldrin, on March 26, 2012. The TMDL was developed because these pollutants exceed water quality standards. The Department is a point source contributing to the impairment of the watershed.

***Final Waste Load Allocations and Contributions Specific to the Department:*** Discharges from municipal separate storm sewer systems to Echo Park Lake are sources contributing to the impairment of the watershed. Specific waste load allocations assigned to the Department are provided below. There are two sets of waste load allocations, one which bases compliance on various fish tissue targets, which then supersedes the initial set of waste load allocations. Waste load allocations are specified for the point of discharge.

**The Department's Final Suspended Sediment Polychlorinated Biphenyls, Chlordane, and Dieldrin Waste Load Allocations**

| Subwatershed | Pollutant | Waste Load Allocation (microgram per kilogram dry weight) | Waste Load Allocation (nanogram per liter) |
|---|---|---|---|
| Northern | PCBs | 1.77 | 0.17 |
| Southern | PCBs | 1.77 | 0.17 |
| Northern | Total Chlordane | 2.10 | 0.59 |

| Subwatershed | Pollutant | Waste Load Allocation (microgram per kilogram dry weight) | Waste Load Allocation (nanogram per liter) |
|---|---|---|---|
| Southern | Total Chlordane | 2.10 | 0.59 |
| Northern | Dieldrin | 0.80 | 0.14 |
| Southern | Dieldrin | 0.80 | 0.14 |

Table Legend:
Kg = kilogram
PCBs = polychlorinated biphenyls

**Department-Specific Polychlorinated Biphenyls, Chlordane, and Dieldrin Waste Load Allocations if Fish Tissue Targets are Met**

| Subwatershed | Pollutant | Waste Load Allocations (microgram per kilogram dry weight) | Water Column Waste Load Allocations (nanogram per liter) |
|---|---|---|---|
| Northern | Polychlorinated biphenyls | 59.8 | 0.17 |
| Southern | Polychlorinated biphenyls | 59.8 | 0.17 |
| Northern | Total Chlordane | 3.24 | 0.59 |
| Southern | Total Chlordane | 3.24 | 0.59 |
| Northern | Dieldrin | 1.90 | 0.14 |
| Southern | Dieldrin | 1.90 | 0.14 |

***Final Compliance Deadline:*** In 2012 U.S. EPA established this TMDL. An implementation schedule was not included; therefore, the final compliance deadline was March 26, 2012.

*A9.7.5.2.8 Los Angeles Area Lakes, Peck Road Park Lake, Chlordane, Dichlorodiphenyltrichloroethane, Dieldrin, and Polychlorinated Biphenyls Total Maximum Daily Load*

***Description:*** On March 26, 2012, U.S. EPA established the Peck Road Park Lake TMDL for chlordane, dichlorodiphenyltrichloroethane, dieldrin, and polychlorinated biphenyls because these pollutants exceed water quality standards. The Department is a point source contributing to the impairment of the watershed.

***Final Waste Load Allocations and Contributions Specific to the Department:*** Discharges from municipal separate storm sewer systems to

Peck Road Park Lake are sources contributing to the impairment of the watershed. The TMDL provides specific waste load allocations for the Department, which includes two sets. One set relies on meeting various fish tissue targets, and if met then the initial set of waste load allocations would be superseded. Waste load allocations are specified for the point of discharge.

**Department's Final Polychlorinated Biphenyls Waste Load Allocations**

| Subwatershed | Suspended Sediment (micrograms per kilogram dry weight) | Water Column (nanograms per liter) |
|---|---|---|
| Eastern | 1.29 | 0.17 |
| Western | 1.29 | 0.17 |

**Department's Polychlorinated Biphenyls Waste Load Allocation If the Fish Tissue Targets are Met:**

| Subwatershed | Suspended Sediment (micrograms per kilogram dry weight) | Water Column (nanograms per liter) |
|---|---|---|
| Eastern | 59.8 | 0.17 |
| Western | 59.8 | 0.17 |

**Department's Total Chlordane Waste Load Allocations**

| Subwatershed | Suspended Sediment (micrograms per kilogram dry weight) | Water Column (nanograms per liter) |
|---|---|---|
| Eastern | 1.73 | 0.59 |
| Western | 1.73 | 0.59 |

**Department's Total Chlordane Waste Load Allocations if Fish Tissue Targets are Met**

| Subwatershed | Suspended Sediment (micrograms per kilogram dry weight) | Water Column (nanograms per liter) |
|---|---|---|
| Eastern | 3.24 | 0.59 |
| Western | 3.24 | 0.59 |

**Department's Total Dichlorodiphenyltrichloroethane Waste Load Allocations**

| Subwatershed | Suspended Sediment (micrograms per kilogram dry weight) | Water Column (nanograms per liter) |
|---|---|---|
| Eastern | 5.28 | 0.59 |
| Western | 5.28 | 0.59 |

**Department's Dieldrin Waste Load Allocations**

| Subwatershed | Suspended Sediment (micrograms per kilogram dry weight) | Water Column (nanograms per liter) |
|---|---|---|
| Eastern | 0.43 | 0.14 |
| Western | 0.43 | 0.14 |

**Department's Dieldrin Waste Load Allocation if the Fish Tissue Targets are Met**

| Subwatershed | Suspended Sediment (micrograms per kilogram dry weight) | Water Column (nanograms per liter) |
|---|---|---|
| Eastern | 1.90 | 0.14 |
| Western | 1.90 | 0.14 |

***Final Compliance Deadline:*** On March 26, 2012, U.S. EPA established the TMDL. An implementation schedule was not included; therefore, the final compliance deadline was March 26, 2012.

*A9.7.5.2.9* *Los Angeles Area Lakes, Puddingstone Reservoir, Chlordane, Dichlorodiphenyltrichloroethane, Polychlorinated Biphenyls, Mercury, and Dieldrin Total Maximum Daily Load*

***Description:*** On March 26, 2012, U.S. EPA established the Puddingstone Reservoir TMDL for chlordane, dichlorodiphenyltrichloroethane, polychlorinated biphenyls, mercury, and dieldrin because these pollutants exceed California's fish contaminant goals. The Department is a point source contributing to the impairment of the waterbody.

***Final Waste Load Allocations and Contributions Specific to the Department:*** The TMDLs are separated by two sets of waste load allocations. One set is based on compliance with various fish tissue targets, and if met then the initial set would be superseded. Waste load allocations apply at the point of discharge. Waste load allocations provided in the tables below for polychlorinated biphenyls, chlordane: dichlorodiphenyltrichloroethane, and dieldrin.

**Department's Total Polychlorinated Biphenyls Waste Load Allocations**

| Subwatershed | Suspended Sediment (micrograms per kilogram dry weight) | Water Column (nanograms per liter) |
|---|---|---|
| Northern | 0.59 | 0.17 |
| Southern | 0.59 | 0.17 |

**Department's Total Polychlorinated Biphenyls Waste Load Allocation if Fish Tissue Targets are Met**

| Subwatershed | Suspended Sediment (micrograms per kilogram dry weight) | Water Column (nanograms per liter) |
|---|---|---|
| Northern | 59.8 | 0.17 |
| Southern | 59.8 | 0.17 |

**Department's Total Chlordane Waste Load Allocation**

| Subwatershed | Suspended Sediment (micrograms per kilogram dry weight) | Water Column (nanograms per liter) |
|---|---|---|
| Northern | 0.75 | 0.57 |
| Southern | 0.75 | 0.57 |

**Department's Total Chlordane Waste Load Allocations if the Fish Tissue Targets are Met**

| Subwatershed | Suspended Sediment (micrograms per kilogram dry weight) | Water Column (nanograms per liter) |
|---|---|---|
| Northern | 3.24 | 0.57 |
| Southern | 3.24 | 0.57 |

**Department's Total Dichlorodiphenyltrichloroethane Waste Load Allocations**

| Subwatershed | Suspended Sediment (micrograms per kilogram dry weight) | Water Column (nanograms per liter) |
|---|---|---|
| Northern | 3.94 | 0.59 |
| Southern | 3.94 | 0.59 |

**Department's Total Dichlorodiphenyltrichloroethane Waste Load Allocations if Fish Tissue Targets are Met**

| Subwatershed | Suspended Sediment (micrograms per kilogram dry weight) | Water Column (nanograms per liter) |
|---|---|---|
| Northern | 5.28 | 0.59 |
| Southern | 5.28 | 0.59 |

**Department's Dieldrin Waste Load Allocations**

| Subwatershed | Sediment (micrograms per kilogram dry weight) | Water Column (nanograms per liter) |
|---|---|---|
| Northern | 0.22 | 0.14 |

| Subwatershed | Sediment (micrograms per kilogram dry weight) | Water Column (nanograms per liter) |
|---|---|---|
| Southern | 0.22 | 0.14 |

**Department's Dieldrin Waste Load Allocations if Fish Tissue Targets are Met**

| Subwatershed | Suspended Sediment (micrograms per kilogram dry weight) | Water Column (nanograms per liter) |
|---|---|---|
| Northern | 1.90 | 0.14 |
| Southern | 1.90 | 0.14 |

***Final Compliance Deadline:*** On March 26, 2012, U.S. EPA established the TMDL. An implementation schedule was not provided; therefore, the final compliance deadline was March 26, 2012.

*A9.7.5.2.10 Los Angeles River and Tributaries Metals Total Maximum Daily Load*

***Description:*** On December 12, 2016, U.S. EPA approved the Los Angeles River and Tributaries Metals TMDL because copper, lead, and zinc exceed the water quality concentrations established in the California Toxics Rule. Copper concentrations were exceeded only in dry weather conditions. In wet weather conditions, copper, lead, and zinc concentrations were exceeded.

***Final Waste Load Allocations and Contributions Not Specific to the Department:*** This TMDL includes wet-weather and dry-weather waste load allocations for copper, lead, and zinc. Wet-weather conditions occur when the maximum daily flow of the Los Angeles River is greater than or equal to 500 cubic feet per second. Dry-weather conditions occur when the maximum daily flow is less than 500 cubic feet per second. Critical flows are also listed for each of the reaches in this TMDL. For dry-weather conditions, the Department is assigned waste load allocations that are grouped in with other municipal separate storm sewer system permittees.

Water effect ratios are included in these waste load allocations, but default to a value of 1 (unitless) unless site-specific values are approved by the Water Board. Concentration-based limits are also allowed for dry weather due to the expense of obtaining accurate flow measurements; in this case, the concentration-based limits are equal to dry-weather reach-specific dry-weather numeric targets.

**Final Mass-based Dry-Weather Waste Load Allocations for Stormwater Systems as Total Recoverable Metals (kilograms per day)**

| Waterbody | Critical Flow (cubic feet per second) | Copper | Lead | Zinc |
|---|---|---|---|---|
| Los Angeles River Reach 6 | 7.20 | 0.53 x WER | 0.33 x WER | |
| Los Angeles River Reach 5 | 0.75 | 0.05 x WER | 0.03 x WER | |
| Los Angeles River Reach 4 | 5.13 | 0.32 x WER | 0.12 x WER | |
| Los Angeles River Reach 3 | 4.84 | 0.06 x WER | 0.03 x WER | |
| Los Angeles River Reach 2 | 3.86 | 0.13 x WER | 0.07 x WER | |
| Los Angeles River Reach 1 | 2.58 | 0.14 x WER | 0.07 x WER | |
| Bell Creek | 0.79 | 0.06 x WER | 0.04 x WER | |
| Tujunga Wash | 0.03 | 0.001 x WER | 0.0002 x WER | |
| Burbank Channel | 3.3 | 0.15 x WER | 0.07 x WER | |
| Verdugo Wash | 3.3 | 0.18 x WER | 0.10 x WER | |
| Arroyo Seco | 0.25 | 0.01 x WER | 0.01 x WER | |
| Rio Hondo Reach 1 | 0.50 | 0.01 x WER | 0.006 x WER | 0.16 x WER |
| Compton Creek | 0.90 | 0.04 x WER | 0.02 x WER | |

Table Legend:
WER = water effect ratio is equal to 1 (unitless)

**Final Concentration-Based Reach-Specific Numeric Targets for Total Recoverable Metals (micrograms per liter)**

| Waterbody | Copper | Lead | Zinc |
|---|---|---|---|
| Los Angeles River Reach 6 | WER [1] × 30 | WER [1] × 19 | |
| Los Angeles River Reach 5 | WER [1] × 30 | WER [1] × 19 | |
| Los Angeles River Reach 4 | WER [2] × 26 | WER [1] × 10 | |

| Waterbody | Copper | Lead | Zinc |
|---|---|---|---|
| Los Angeles River Reach 3 above Los Angeles-Glendale Water Reclamation Plant | WER [2] × 23 | WER [1] × 12 | |
| Los Angeles River Reach 3 below Los Angeles-Glendale Water Reclamation Plant | WER [2] × 26 | WER [1] × 12 | |
| Los Angeles River Reach 2 | WER [2] × 22 | WER [1] × 11 | |
| Los Angeles River Reach 1 | WER [2] × 23 | WER [1] × 12 | |
| Bell Creek | WER [1] × 30 | WER [1] × 19 | |
| Burbank Western Channel (above Water Reclamation Plant) | WER [2] × 26 | WER [1] × 14 | |
| Burbank Western Channel (below Water Reclamation Plant) | WER [2] × 19 | WER [1] × 9.1 | |
| Verdugo Wash | WER [2]× 23 | WER [1] × 12 | |
| Compton Creek | WER [1] × 19 | WER [1] × 8.9 | |
| Arroyo Seco | WER [2] × 22 | WER [1] × 11 | |
| Rio Hondo Reach 1 | WER [1] × 13 | WER [1] × 5.0 | WER [1] × 131 |
| Monrovia Canyon | | WER [1] × 8.2 | |

Table Notes:
1. Water effects ratio is equal to 1 (unit less).
2. Water effects ratio for this constituent in this reach is 3.96.

Table Legend:
WER = Water effects ratio

**Final Mass-based Wet-Weather Waste Load Allocations, Total Recoverable Metals**

| Metal | Waste Load Allocation in Kilograms Per Day |
|---|---|
| Cadmium | (WER x 5.3 x $10^{-11}$ x daily volume in liters) – 0.03 |
| Copper | (WER x 2.9 x $10^{-10}$ x daily volume in liters) – 0.2 |
| Lead | (WER x 1.06 x $10^{-09}$ x daily volume in liters) – 0.07 |
| Zinc | (WER x 2.7 x $10^{-09}$ x daily volume in liters) – 1.6 |

***Final Compliance Deadline:*** The final compliance deadline is January 11, 2028, by which the Department is required to demonstrate that 100 percent of the shared drainage area served by the Department's municipal separate storm sewer system complies with both the dry-weather and wet-weather waste load allocations.

*A9.7.5.2.11 Los Cerritos Channel Metals Total Maximum Daily Load*

***Description:*** On March 17, 2010, U.S. EPA established the Los Cerritos Channel Metals TMDL because copper, lead, and zinc exceed the concentrations listed in the California Toxics Rule's water quality standards. Copper concentrations exceeded the dry weather conditions. Copper, lead, and zinc concentrations exceeded the wet weather conditions.

***Final Waste Load Allocations****:* The Department is assigned wet-weather waste load allocations for copper, lead, and zinc. The Department is assigned a dry-weather waste load allocation only for copper.

Wet weather is defined as where the maximum daily flow of Los Cerritos Channel is greater than 23 cubic feet per second. Dry weather is where the maximum daily flow of the Channel is less than 23 cubic feet per second. Final mass-based wet-weather waste load allocations are divided among the Department, other municipal separate storm sewer system permittees, General Construction permittees and General Industrial permittees based on an estimate of the percentage of land area covered under each permit. The Department's estimated percent area of the watershed is 0.8 percent.

**Final Metals Waste Load Allocation Specific to the Department (grams per day)**

| Copper (Dry weather flow only) | Lead (Wet weather and Dry weather) | Zinc (Wet weather and Dry weather) |
|---|---|---|
| 0.070 x daily storm volume x $10^{-6}$ | 0.397 x daily storm volume x $10^{-6}$ | 0.680 x daily storm volume x $10^{-6}$ |

***Contributions Specific to the Department:*** Only the Department and other municipal separate storm sewer systems have a mass-based waste load allocation for copper in dry weather, and this is divided among permittees based on estimates of respective percentage of total watershed area.

***Final Compliance Deadline:*** On March 17, 2010, U.S. EPA established the TMDL. An implementation schedule was not provided; therefore, the final compliance deadline was March 17, 2010.

*A9.7.5.2.12 Machado Lake Pesticides and Polychlorinated Biphenyls Total Maximum Daily Load*

***Description:*** The Los Angeles Water Board developed the Machado Lake Pesticides and Polychlorinated Biphenyls TMDL to protect beneficial uses and to prevent increases in bottom sediment concentrations. U.S. EPA approved it on March 20, 2012. While these compounds have been banned for many years, they continue to persist in the environment and cause water quality impairments. The point sources to the lake are from municipal separate storm sewer system discharges, including those from the Department's system.

***Final Waste Load Allocations and Contributions Specific to the Department:*** The Department is identified as a point source contributing to the impairment of Machado Lake watershed. Contributions specific to the Department are not identified. The Department's waste load allocations for suspended sediment are provided in the table, below.

**The Department's Waste Load Allocations for Suspended Sediment**

| Pollutants | Waste Load Allocations as a 3-Year Averaging Period (microgram per kilogram dry weight) |
|---|---|
| Total PCBs | 59.8 |
| DDT (all congeners) | 4.16 |
| DDE (all congeners) | 3.16 |
| DDD (all congeners) | 4.88 |
| Total DDT | 5.28 |
| Total Chlordane | 3.24 |
| Dieldrin | 1.9 |

Table Legend:
PCBs = polychlorinated biphenyls
DDT = dichlorodiphenyltrichloroethane
DDD = dichlorodiphenyldichloroethane
DDE = dichlorodiphenyldichloroethylene

***Final Compliance Deadline:*** The final compliance deadline was September 30, 2019.

*A9.7.5.2.13 Marina Del Rey Harbor Toxics Pollutants Total Maximum Daily Load*

***Description:*** The Los Angeles Water Board developed the Marina Del Rey Harbor Toxics Pollutants TMDL, which was established due to elevated concentrations of copper, lead, zinc, and organics. U.S. EPA approved the TMDL on March 16, 2006. The Department is identified as a point source contributing to the impairment of Marina Del Rey Harbor.

***Final Waste Load and Contributions Specific to the Department:*** For copper, lead and zinc, a grouped mass-based waste load allocation was developed for stormwater permittees. From that group allocation, permittees are apportioned separate allocations based on an estimate of the percentage of land area covered under each permit. The Department is assigned approximately one percent of the waste load allocation for each pollutant, based on an estimate of area within the watershed. Waste load allocations for organics are concentration based and are not apportioned by permittees.

The Department's apportion of mass-based waste load allocations for copper, lead, zinc, and organics are provided in the two tables, below.

**Department's Apportion of Total Mass-Based Metals Waste Load Allocations in Stormwater (kilograms per year)**

| Copper | Lead | Zinc |
|---|---|---|
| 2.06 | 2.83 | 9.11 |

**Department's Apportion of Organics Mass-Based Waste Load Allocations in Stormwater (grams per year)**

| Chlordane | Total PCBs | Total DDT | DDE |
|---|---|---|---|
| 0.0005 | 0.024 | 0.0017 | 0.0024 |

Table Legend:
PCBs = polychlorinated biphenyls
DDT = dichlorodiphenyltrichloroethane
DDE = dichlorodiphenyldichloroethylene

***Final Compliance Deadline:*** On March 20, 2012, U.S. EPA approved the TMDL. An implementation schedule was not provided; however, a final compliance deadline of March 16, 2021 was established if an integrated water resource approach is employed. Otherwise, the final compliance deadline was March 20, 2012.

*A9.7.5.2.14 San Gabriel River and Impaired Tributaries Metals Total Maximum Daily Load*

***Description:*** U.S. EPA established the San Gabriel River and Impaired Tributaries Metals TMDL on March 26, 2007. On June 6, 2013, the Los Angeles Water Board adopted the Implementation Plan for Total Maximum Daily Loads for Metals and Selenium in the San Gabriel River and Impaired Tributaries Metals, which was approved by the U.S. EPA on May 11, 2017. The San Gabriel River, tributaries, and the estuary each exceed water quality objectives for one or more of the following: copper, lead, selenium, and zinc. The Department is identified as a point source contributing to the impairment of the watershed. Segments (i.e., reaches) of the San Gabriel River have been identified as impaired, which includes the tributaries San Jose Creek Reach 1, San Gabriel River Reach 2, and Coyote Creek. The Department discharges to all the reaches.

***Final Metals Waste Load Allocations and Contributions Specific to the Department:*** The 2013 Implementation Plan states that dry-weather and wet-weather waste load allocations shall be incorporated into the Department's stormwater permit and shall apply to the Department's discharges in the San Gabriel River Watershed.

- For San Gabriel River Reach 2, wet weather TMDLs apply when the maximum daily flow at United States Geological Survey station 11085000 is 260 cubic feet per second or greater.
- For the Coyote Creek, wet-weather TMDLs apply when the maximum daily flow at Los Angeles County Department of Public Works flow gauge station F345-R is 156 cubic feet per second or greater.
- For San Jose Creek, a dry-weather selenium waste load allocation as an effluent limitation is 5 micrograms per liter.
- For dry-weather copper, the Department is assigned concentration-based waste load allocations specific to San Gabriel River Reach 1, Coyote Creek, and the San Gabriel River Estuary.

**Dry-Weather Copper Waste Load Allocations (micrograms per liter)**

| Waterbody | Concentration-Based Waste Load Allocation |
|---|---|
| San Gabriel River Estuary | 3.7 |
| San Gabriel Reach 1 | 18 |
| Coyote Creek | 20 |

**Wet-Weather Waste Load Allocations (kilograms per day)**

| Reach | Copper | Lead | Zinc |
|---|---|---|---|
| San Gabriel Reach 2 | | Daily storm volume × 166 micrograms per liter × 49% | |
| Coyote Creek | Daily storm volume × 27 micrograms per liter × 91.5% | Daily storm volume × 106 micrograms per liter × 91.5% | Daily storm volume × 158 micrograms per liter × 91.5% |

In the above table, the mass-based waste load allocation is the daily storm volume times the numeric target of the metal for the waterbody times the estimated percentage of watershed covered by the TMDL. The daily storm volume is equal to the total daily flow either in San Gabriel River Reach 2 or Coyote Creek.

The 2013 Implementation Plan states that if a permittee provides a quantitative demonstration that control measures and best management practice will achieve wet-weather waste load allocations, then compliance with wet-weather waste load allocations may be demonstrated by implementation of those control measures and best management practices, subject to Executive Officer approval. The 2013 Implementation Plan also states that a storm water permittee shall demonstrate that 100 percent of the total drainage area served by its storm drain system is effectively meeting both the dry-weather and wet-weather waste load allocations and attaining water quality standards for copper, lead, and zinc.

***Final Compliance Deadline:*** The final compliance deadline to meet waste load allocations is September 30, 2026.

*A9.7.5.2.15 Santa Monica Bay Polychlorinated Biphenyls and Dichlorodiphenyltrichloroethane Total Maximum Daily*

***Description:*** U.S. EPA established the Santa Monica Bay Polychlorinated Biphenyls and Dichlorodiphenyltrichloroethane TMDL on March 26, 2012. The purpose of the TMDL is to address impairments that affect water consumption and aquatic life. The Department is identified as a point source contributing to the impairment of the watershed.

***Final Waste Load and Contributions Specific to the Department:*** Allocations for NPDES-regulated stormwater discharges from multiple point sources are expressed as a single categorical waste load allocation, referred to as grouped waste load allocations. Thus, the waste load allocations are apportioned, as a group, to the Los Angeles County municipal separate storm sewer system permit, the Department's municipal separate storm sewer system permit, and enrollees under the

general construction and industrial stormwater permits. Further, the Department's municipal separate storm sewer system is 2.7 percent of the area within the Santa Monica Bay watersheds. Thus, the Department's apportion of the aggregate allocation, as shown in the table below, are 2.7 percent of the aggregate allocations in the TMDL for all NPDES-regulated stormwater discharges.

**Department's Final Polychlorinated Biphenyls and Dichlorodiphenyltrichloroethane Waste Load Allocations**

| Total Polychlorinated Biphenyls (grams per year) | Total Dichlorodiphenyltrichloroethane (grams per year) |
|---|---|
| 3.9 | 0.75 |

***Final Compliance Deadline:*** On March 26, 2012, U.S. EPA established the TMDL. An implementation schedule was not included; therefore, the final compliance deadline was March 26, 2012.

A9.7.5.3 Santa Ana Region Metals/Toxics/Pesticides Total Maximum Daily Load

*A9.7.5.3.1 Rhine Channel Area of Lower Newport Bay Chromium*

***Description:*** U.S. EPA established the Rhine Channel Area of Lower Newport Bay Chromium TMDL on June 14, 2002. The purpose is to help restore and protect impaired water quality. Chromium concentrations exceed California Toxics Rule water quality standards. Discharges from municipal separate storm sewer systems to Rhine Channel Area of Lower Newport Bay are from point sources contributing to the impairment of the watershed. The Department is considered a point source.

***Final Waste Load Allocations and Contributions Specific to the Department:*** The mass-based chromium waste load allocation for the Department is 0.89 kilograms/year. This waste load allocation, specific to the Department, is based on the Department's relative contribution to the chromium loading of approximately three percent of the total, based on the area of the Department's facilities within the watershed.

***Final Compliance Deadline:*** U.S. EPA established the TMDL on June 14, 2002. An implementation schedule was not included; therefore, the final compliance deadline was June 14, 2002.

*A9.7.5.3.2 San Diego Creek and Newport Bay, including Rhine Channel Metals Total Maximum Daily Load*

***Description:*** U.S. EPA established the San Diego Creek and Newport Bay Metals TMDL on June 14, 2002. The TMDL includes the Rhine Channel. Dissolved copper concentrations in San Diego Creek and Upper Newport Bay exceed California Toxics Rule water quality standards. The

purpose of the TMDL is to restore and protect water quality of Newport Bay, San Diego Creek, and tributaries. Discharges from municipal separate storm sewer systems to San Diego Creek, Newport Bay and Rhine Channel are from point sources contributing to the impairment of the watershed. The Department is considered a point source.

***Final Waste Load Allocations:*** The TMDL establishes waste load allocations for copper in San Diego Creek, Newport Bay, and the Rhine Channel. San Diego Creek is a freshwater stream, while Newport Bay and Rhine Channels are saltwater waterbodies. For San Diego Creek, the Department is assigned concentration-based waste load allocations for copper. There are no wet-weather or dry-weather waste load allocations; instead there are four sets of waste load allocations for each metal for four different flow tiers. All flow tiers have an acute and chronic waste load allocation, except for the highest flow tier, which only has an acute waste load allocation.

On April 20, 2020, the Santa Ana Water Board stated that cadmium, lead, and zinc were delisted for San Diego Creek and Newport Bay. However, the following waste load allocation for all four metals continue to be in effect and apply to the Department's discharges.

**Concentration-Based Waste Load Allocation Based for San Diego Creek Watershed by Flow Tiers (micrograms per liter) Applicable to the Department**

| Metal | Flow Tier 1 Acute | Flow Tier 1 Chronic | Flow Tier 2 Acute | Flow Tier 2 Chronic | Flow Tier 3 Acute | Flow Tier 3 Chronic | Flow Tier 4 Acute |
|---|---|---|---|---|---|---|---|
| Copper | 50 | 29.3 | 40 | 24.3 | 30.2 | 18.7 | 25.5 |

Table Notes:

Flow Tier 1 = Base flow is less than 20 cubic feet per second; hardness = 400 milligrams per liter
Flow Tier 2 = Small flows are 21–181 cubic feet per second; hardness = 322 milligram per liter
Flow Tier 3 = Medium flows are 182–815 cubic feet per second; hardness = 236 milligram per liter
Flow Tier 4 = Flows greater than 815 cubic feet per second; hardness = 197 milligram per liter

**Final Mass-Based Dissolved Metals Waste Load Allocations in Newport Bay including Rhine Channel (pounds per year) Applicable to the Department**

| Copper Newport Bay and Rhine Channel | Lead Rhine Channel | Zinc Rhine Channel |
|---|---|---|
| 423 | 2,171 | 22,866 |

**Final Concentration-Based Dissolved Metal Waste Load Allocations Newport Bay including Rhine Channel (micrograms per liter) Applicable to the Department**

| Metal | Dissolved Saltwater Acute | Dissolved Saltwater Chronic |
|---|---|---|
| Copper | 4.8 | 3.1 |

***Final Compliance Deadline:*** On June 14, 2002, U.S. EPA established the TMDL. An implementation schedule was not included in the TMDL. Therefore, the final deadline was June 14, 2002.

*A9.7.5.3.3 San Diego Creek Upper and Lower Newport Bay, Revised Organochlorine Compounds Total Maximum Daily Load*

***Description:*** U.S. EPA established the San Diego Creek and Newport Bay TMDL for Toxic Pollutants on June 14, 2002. The waterbody-pollutant combinations for which organochlorine compounds The Santa Ana Water Board approved revised TMDLs for organochlorine compounds in 2011, which differ from those established by U.S. EPA in 2002 because of an updated impairment assessment and corrections and modifications made to loading capacities identified by U.S. EPA. These revised TMDLs were approved by U.S. EPA in 2013. The purpose of the TMDL is to restore and protect the water quality of Newport Bay, San Diego Creek, and tributaries. Toxic pollutants are found in the water column, bottom sediments, or fish tissue at potentially unsafe levels that exceed applicable water quality standards. For this TMDL, toxic pollutants include polychlorinated biphenyls, chlordane, toxaphene, and dichlorodiphenyltrichloroethane. Toxic pollutants have a potential to cause short term adverse impacts to aquatic life, aquatic-dependent wildlife, or long-term human health and aquatic life impacts due to pollutant bioaccumulation and biomagnification in the aquatic food web.

***Final Waste Load Allocations and Department-Specific Proportion:*** The Department is listed as a primary source of pollutant loads contributing to the impairment of San Diego Creek watershed. The mass-based waste load allocations are expressed as daily and annual values, as shown in the table, below. Toxic pollutants include total dichlorodiphenyltrichloroethane, chlordane, total polychlorinated biphenyls, and toxaphene. Based upon the percentage of the total urban land use comprised by urban roads, the Department's facilities and roadways make up 11 percent of the land area and are assigned a proportion of the overall waste load allocations accordingly.

**Department-Specific Waste Load Allocations Expressed as a Daily Value (grams per day)**

| Watershed | Total DDT | Chlordane | Total PCBs | Toxaphene |
|---|---|---|---|---|
| San Diego Creek | 0.11 | | | 0.002 |

| Watershed | Total DDT | Chlordane | Total PCBs | Toxaphene |
|---|---|---|---|---|
| Upper New port Bay | 0.04 | 0.03 | 0.02 | |
| Lower Newport Bay | 0.02 | 0.01 | 0.07 | |

Table Legend:
PCBs = Polychlorinated Biphenyls
DDT = Dichlorodiphenyltrichloroethane

**Department-Specific Waste Load Allocations Expressed as an Annual Value (grams per year)**

| Watershed | Total DDT | Chlordane | Total PCBs | Toxaphene |
|---|---|---|---|---|
| San Diego Creek | 39.2 | | | 0.6 |
| Upper Newport Bay | 15.8 | 9.2 | 9.1 | |
| Lower Newport Bay | 5.8 | 3.4 | 23.9 | |

Table Legend:
PCBs = Polychlorinated Biphenyls
DDT = Dichlorodiphenyltrichloroethane

***Final Compliance Deadline:*** The final compliance deadline for this TMDL was December 31, 2020.

A9.7.5.4 San Diego Region Metals Total Maximum Daily Load

*A9.7.5.4.1 Chollas Creek Dissolved Copper, Lead and Zinc Total Maximum Daily Load*

This Order implements the Chollas Creek Dissolved Metals TMDL with requirements for monitoring, reporting, and best management practices. The TMDL states that compliance with the waste load allocations shall be assessed by showing that dissolved metals concentrations in the receiving water do not exceed the waste load allocations. Further, if receiving water monitoring shows that the Department's discharges contribute to an exceedance of the numeric water quality criteria in Chollas Creek, then the Department will be required to implement best management practices to meet the waste load allocations before runoff is discharged to Chollas Creek.

***Description:*** The San Diego Water Board adopted the Chollas Creek Dissolved Copper, Lead, and Zinc TMDL, which was approved by U.S. EPA on December 18, 2008. The purpose of the TMDL is to protect aquatic life due to copper, lead, and zinc concentrations exceeding the California Toxics Rule for water quality criteria. Point sources contributing to the impairment include discharges from municipal separate storm sewer systems. The Department is identified as a contributing point source of these metals.

***Final Waste Load Allocations and Contributions Specific to the Department:*** The TMDL states that modeling efforts point toward freeways and commercial/industrial land uses as the major contributors. The Department is required to meet the waste load allocations provided below, which are concentration-based and are 90 percent of the numeric targets for acute and chronic conditions. The allocations are in units of micrograms per liter as dissolved metals. These formulas provide calculations for acute and chronic conditions for dissolved copper, lead, and zinc concentrations.

As stated above, the TMDL states that compliance with the waste load allocations shall be assessed by showing that dissolved metals concentrations in the receiving water do not exceed the concentrations shown in the table, below, by the final compliance deadline. These waste load allocations apply to the entirety of Chollas Creek and during all times of the year.

**Waste Load Allocations Expressed as 90 Percent of the Numeric Targets for Acute Conditions (microgram per liter) in Receiving Water**

| Metal | Waste Load Allocation |
|---|---|
| Copper | 0.9 × WER × (0.96) × {e^ [0.9422 × ln (hardness) – 1.700)} |
| Lead | 0.9 × WER × {1.46203 – [0.145712 × ln (hardness)]} x {e^ [1.273 × ln (hardness) – 1.460]} |
| Zinc | 0.9 × WER × (0.978) × {e^ [0.8473 × ln (hardness) + 0.884]} |

**Waste Load Allocations Expressed as 90 Percent of the Numeric Targets for Chronic Conditions (microgram per liter) in Receiving Water**

| Metal | Waste Load Allocation |
|---|---|
| Copper | 0.9 × WER × (0.96) × {e^ [0.845 × ln (hardness) – 1.702]} |
| Lead | 0.9 × WER × {1.46203 – [0.145712 × ln hardness)]} × {e^ [1.273 × ln (hardness) – 4.705]} |
| Zinc | 0.9 × WER × (0.986) × {e^ (0.8473 × ln (hardness) + 0.884]} |

Table Legend:

WER is defined as the water effects ratio. The site-specific water effects ratio applies during wet weather, which is defined as a storm event with greater than 0.1 inch of rainfall. Wet weather copper water effects ratio is 6.998 and wet weather zinc water effects ratio is 1.711. Dry weather water effects ratios are equal to 1.0. There is no site-specific water effects ratio for lead due to neutral pH conditions (making lead very insoluble) and low concentrations of lead detected in Chollas Creek. In absence of a site-specific value, the water effects ratio for lead remains the default value of 1.0, as described in San Diego Regional Water Quality Control Board Resolution R9-2017-0015.

***Final Compliance Deadline:*** The final compliance date for the Department shall meet 100 percent of waste load allocation (i.e., 90 percent of the numeric target) is December 18, 2028.

*A9.7.6 Pollutant Category—Trash Total Maximum Daily Loads*

The Department is identified as a responsible contributor of ten trash TMDLs. Two trash TMDLs were established by U.S. EPA and eight were adopted by the Los Angeles Water Board.

- U.S. EPA established the Los Angeles Area Lakes TMDLs, which identifies the Department as a responsible party for trash impairment to Peck Road Park Lake and Echo Park Lake.
- The Los Angeles Water Board adopted eight trash TMDLs for which the Department is identified as a responsible party for trash impairment to the following waterbodies/watersheds: Ballona Creek; Los Angeles Area Lakes, Legg Lake; Los Angeles River; Machado Lake; Malibu Creek Watershed; Revolon Slough and Beardsley Wash; Santa Monica Bay Nearshore and Offshore; and Ventura River Estuary.

These ten TMDLs explicitly state that the trash waste load allocations "will be implemented through permit requirements." Thus, the Department is required to comply with these ten TMDLs as follows:

1. *TMDL Trash Reduction Allocations*: The TMDL allocations for the Department are zero. The TMDLs include baseline waste load allocations described as gallons per year of trash that the Department shall remove or reduce from discharges from its jurisdiction to satisfy its trash load allocations. The baseline waste load allocations were a result of establishing the Department's default trash baseline for each watershed. Areas within the Department's jurisdiction include highway on- and off-ramps in high density residential, commercial, and industrial land uses, rest areas and park-and-rides, state highways in commercial and industrial land uses, and mainline highway segments.
2. *Control Measures:* To achieve the trash reduction allocation, the TMDLs require the installation of certified full capture systems that are designed to trap all particles that are 5 millimeter or greater and are sized to have a design treatment capacity that is not less than the peak flow rate resulting from a one-year, one-hour storm.

The statewide Trash Provisions, as discussed above in this Fact Sheet, do not apply to the watersheds within these ten trash TMDLs.

A9.7.6.1 Los Angeles Region Trash Total Maximum Daily Load

*A9.7.6.1.1 Ballona Creek and Wetland Trash Total Maximum Daily Load*

***Description:*** The Los Angeles Water Board adopted the Ballona Creek and Wetland Trash TMDL, which was approved by U.S. EPA on June 30, 2016. The purpose of the TMDL is to attain trash water quality standards via discharge prevention and removal, which will lead to improved water quality and protection of aquatic life and habitat.

***Waste Load Allocations:*** The point source discharge of trash to Ballona Creek and Wetland watershed, shoreline, and channels is prohibited. The waste load allocation is zero. Storm drains were identified as a major source of trash. Waste load allocations were assigned to permittees of the Los Angeles County municipal separate storm sewer system permit and the Department.

***Baseline Trash Waste Load Allocations Specific to the Department*:** The Department's baseline waste load allocation is 1,635 cubic feet per year.

***Compliance Deadline:*** The final compliance date with 100 percent reduction of trash was September 30, 2015.

*A9.7.6.1.2 Los Angeles Area Lakes, Legg Lake Trash Total Maximum Daily Load*

***Description:*** The Los Angeles Water Board developed the Legg Lake Trash TMDL. The TMDL was approved by U.S. EPA on February 27, 2008. The purpose of the TMDL is to attain trash water quality standards via discharge prevention and removal, which will lead to improved water quality and protection of aquatic life and habitat.

***Waste Load Allocations:*** The point source discharge of trash to Legg Lake watershed, shoreline, and channels is prohibited. The waste load allocation is zero. Both point sources and nonpoint sources are identified as trash sources. Waste load allocations were assigned to stormwater point sources, which includes NPDES stormwater permittees under the Los Angeles County municipal separate storm sewer system permit and the Department.

***Baseline Trash Waste Load Allocations Specific to the Department:*** The Department's baseline waste Load allocation is 586.92 gallons per year.

***Final Compliance Deadline:*** The final compliance deadline for 100 percent reduction of trash from the baseline waste load allocation was March 6, 2016.

*A9.7.6.1.3 Los Angeles River Trash Total Maximum Daily Load*

***Description:*** The Los Angeles Water Board adopted the Los Angeles River Trash TMD. The TMDL was approved by U.S. EPA on December 24, 2008. The purpose of the TMDL is to attain trash water quality standards via discharge prevention and removal, which will lead to improved water quality and protection of aquatic life and habitat.

***Waste Load Allocations.*** The point source discharge of trash to the Los Angeles River watershed, shoreline, and channels is prohibited. The waste load allocation is zero. Both point sources and nonpoint sources are identified as trash sources. Waste load allocations were assigned to stormwater point sources, which includes NPDES stormwater permittees under the Los Angeles County municipal separate storm sewer system permit and the Department.

***Baseline Trash Waste Load Allocations Specific to the Department.*** The Department's baseline trash waste Load Allocation is 59,421 gallons per year and 66,566 pounds per year.

***Final Compliance Deadline:*** The final compliance deadline was September 30, 2014.

*A9.7.6.1.4 Machado Lake Trash Total Maximum Daily Load*

***Description*:** The Los Angeles Water Board developed the Machado Lake Trash TMDL. The TMDL was approved by U.S. EPA on February 27, 2008. The purpose of the TMDL is to attain trash water quality standards via discharge prevention and removal, which will lead to improved water quality and protection of aquatic life and habitat.

***Waste Load Allocations:*** The waste load allocation is zero. Both point sources and nonpoint sources are identified as sources. These sources discharge trash to the Machado Lake watershed, shoreline, and channels. Point sources that were assigned waste load allocations include stormwater permittees under the Los Angeles County municipal separate storm sewer system permit and the Department.

***Baseline Trash Waste Load Allocations Specific to the Department.*** The Department's baseline waste load allocation is 4,215.84 gallons per year.

***Final Compliance Deadline:*** The final compliance deadline was March 6, 2016.

*A9.7.6.1.5 Malibu Creek Watershed Trash Total Maximum Daily Load*

***Description:*** The Los Angeles Water Board adopted the Malibu Creek Watershed Trash TMDL. The TMDL was approved by U.S. EPA on June 26, 2009. The purpose of the TMDL is to attain trash water quality

standards via discharge prevention and removal, which will lead to improved water quality and protection of aquatic life and habitat.

***Waste Load Allocations:*** The point source discharge of trash to the Malibu Creek watershed, shoreline, and channels is prohibited. The waste load allocation is zero. Both point source and nonpoint sources of trash were identified as sources. For point sources, waste load allocations were assigned to stormwater permittees of the Los Angeles County municipal separate storm sewer system permit, the Ventura County municipal separate storm sewer system permit, and the Department.

***Baseline Trash Waste Load Allocations Specific to the Department:*** The Department's baseline trash waste load allocation is 10,813 gallons per year.

***Final Compliance Deadline:*** The final compliance date was July 7, 2017.

*A9.7.6.1.6 Revolon Slough and Beardsley Wash Trash Total Maximum Daily Load*

***Description*:** The Los Angeles Water Board developed the Revolon Slough and Beardsley Wash Trash TMDL. The TMDL was approved by U.S. EPA on February 27, 2008. The purpose of the TMDL is to attain trash water quality standards via discharge prevention and removal, which will lead to improved water quality and protection of aquatic life and habitat.

***Waste Load Allocations:*** The point source discharge of trash to the Revolon Slough and Beardsley Wash watershed, shoreline, and channels is prohibited. The waste load allocation is zero. Point source and nonpoint sources for trash were identified in the Revolon Slough and Beardsley Wash and were assigned allocations. For point sources, waste load allocations were assigned to NPDES stormwater permittees of the Ventura County municipal separate storm sewer system permit and the Department.

***Baseline Trash Waste Load Allocations Specific to the Department:*** The Department's baseline waste load allocation is 11,215.45 gallons per year.

***Final Compliance Deadline:*** The final compliance deadline was February 27, 2016.

*A9.7.6.1.7 Santa Monica Bay Nearshore and Offshore Debris*

***Description:*** The Los Angeles Water Board adopted the Santa Monica Bay Nearshore and Offshore Debris Trash and Plastic Pellets TMDL. The TMDL was approved by the U.S. EPA on March 20, 2012. The purpose of the TMDL is to attain trash water quality standards via discharge prevention and removal, which will lead to improved water quality and protection of aquatic life and habitat.

***Waste Load Allocations:*** The point source discharge of trash to the Santa Monica Bay Nearshore and Offshore watershed, shoreline, and channels is prohibited. The waste load allocation is zero. Both point source and nonpoint sources of trash were identified as sources. For point sources, waste load allocations were assigned to stormwater permittees of the Los Angeles County municipal separate storm sewer system permit, the Ventura County municipal separate storm sewer system permit, and the Department.

***Baseline Trash Waste Load Allocations Specific to the Department*:** The Department's baseline waste load allocation is 36,129.0 gallons per year.

***Final Compliance Deadline:*** The implementation schedule for the Department consists of a phased approach with compliance to be achieved in prescribed percentages. The final compliance deadline was March 12, 2020.

*A9.7.6.1.8 Ventura River Estuary Trash Total Maximum Daily Load*

***Description:*** The Los Angeles Water Board developed the Ventura River ***Description:*** The Los Angeles Water Board developed the Ventura River Estuary Trash TMDL. The TMDL was approved by U.S. EPA on February 27, 2008. The purpose of the TMDL is to attain trash water quality standards via discharge prevention and removal, which will lead to improved water quality and protection of aquatic life and habitat.

***Waste Load Allocations*:** The point source discharge of trash to the Ventura River Estuary watershed, shoreline, and channels is prohibited. The waste load allocation is zero. Point source and nonpoint sources for trash were identified and were assigned allocations. For point sources, waste load allocations were assigned to NPDES stormwater permittees of the Ventura County municipal separate storm sewer system permit and the Department.

***Baseline Trash Waste Load Allocations Specific to the Department*:** The Department's baseline waste load allocation is 2,049.86 gallons per year.

***Final Compliance Deadline:*** The final compliance deadline was February 27, 2016.

A9.7.6.1.9 Los Angeles Area Lakes, Peck Road Park Lake Trash Total Maximum Daily Load

***Description:*** U.S. EPA established the Peck Road Park Lake Trash TMDL on March 26, 2012. The purpose of the TMDL is to attain trash water quality standards via discharge prevention and removal, which will lead to improved water quality and protection of aquatic life and habitat.

***Waste Load Allocations:*** The point source discharge of trash to the Peck Road Park Lake watershed, shoreline, and channels is prohibited. The waste load allocation is zero. Point source and nonpoint sources for trash were identified and were assigned allocations. For point sources, waste load allocations were assigned to NPDES stormwater permittees under the Los Angeles County municipal separate storm sewer system permit and the Department.

***Baseline Trash Waste Load Allocations Specific to the Department:*** The Department's baseline waste load allocation is 150 gallons per year.

***Final Compliance Deadline:*** An implementation schedule was not included; therefore, the final compliance deadline was March 26, 2012.

*A9.7.6.1.10 Los Angeles Area Lakes, Echo Park Lake Trash Total Maximum Daily Load*

***Description:*** U.S. EPA established the Echo Park Lake trash TMDL on March 26, 2012. The purpose of the TMDL is to attain trash water quality standards via discharge prevention and removal, which will lead to improved water quality and protection of aquatic life and habitat

***Waste Load Allocation:*** The point source discharge of trash to Echo Park Lake watershed, shoreline, and channels is prohibited. The waste load allocation is zero. The Department is identified as a point source, and waste load allocations are implemented through the Department's NPDES stormwater permit requirements.

***Baseline Trash Waste Load Allocations Specific to the Department:*** The Department baseline waste load allocation is 150 gallons per year.

***Final Compliance Deadline:*** An implementation schedule was not included; therefore, the final compliance deadline was March 26, 2012.

*A9.7.7 Pollutant Category—Bacteria Total Maximum Daily Load*

***General Description of Pollutant Category*:** Receiving waters are often adversely affected by urban stormwater runoff containing bacteria. Several reaches and tributaries have been impaired due to excessive amounts of coliform bacteria. There is a causal relationship between adverse health effects and recreational water quality, as measured by bacterial indicator densities. Fecal coliform bacteria may be introduced from a variety of sources including stormwater runoff, dry-weather runoff, onsite wastewater, and pet and animal wastes. In addition, humans may be exposed to waterborne pathogens through recreation water use or by harvesting and consuming filter-feeding shellfish.

***Sources of Pollutant and How Pollutant Enters the Waterway*:** Major contributors are flows and associated bacteria loading from stormwater conveyance systems. The extent of bacteria loading from natural sources

such as birds, waterfowl, and other wildlife, however, are not identified because data does not exist to quantify the impact of wildlife on the waterbodies.

***Watershed Contribution*:** The TMDLs in the bacteria pollutant category show that the Department is a relatively minor source of pollutants.

***Control Measures*:** Best management practices include structural and nonstructural controls to manage dry weather and wet weather discharges.

The Department has options that would be effective for controlling non-stormwater runoff during dry weather. This can be achieved through infiltration, diversion, or other methods. Generally, there should be no flow from areas during dry weather. Dry weather flows can be mitigated by ensuring that broken sprinklers and irrigation pipes are promptly repaired and by review of watering schedules annually.

Increasing infiltration through slowing runoff rates, improving soil structure, and augmenting soil texture to encourage stormwater infiltration are non-structural ways to reduce runoff. Structural best management practices such as biofiltration strips, biofiltration swales, and detention basis can work in concert with the non-structural best management practices to capture of the runoff.

Wet weather flows for the most part impact water contact recreation beneficial uses. Therefore, a combination of source control and treatment best management practices may be necessary. These treatment best management practices can include retention, detention, infiltration, and diversion of stormwater. Non-structural practices may include sweeping, sanitary services at encampments that are occupied by persons experiencing homelessness, pollution prevention, and clean-up of illegal dumping.

A9.7.7.1 San Francisco Bay Bacteria Total Maximum Daily Load

*A9.7.7.1.1 Petaluma River Fecal Indicator Bacteria Total Maximum Daily Load*

***Description:*** U.S. EPA approved the Petaluma River Fecal Indicator Bacteria TMDL on May 10, 2021, which was formerly approved by the San Francisco Bay Water Board. The Petaluma River and its tributaries are impaired by bacteria, which impacts recreational uses. Stormwater runoff has the potential to discharge bacteria to the waterbody. Discharges from the Departments stormwater conveyance system are identified as a bacteria source.

***Final Waste Load Allocations and Contributions Specific to the Department**:* Discharges from the Department and from other municipal separate storm sewer systems are considered point sources with

associated waste load allocations. The waste load allocation applicable to the Department's stormwater discharges is identified in the table below.

In the table, below, colony forming unit per 100 mL is the Colony Forming Unit per 100 milliliters of sample and is equivalent to Most Probable Number per 100 milliliters of sample.

**Department-specific Waste Load Allocations for Bacteria in the Petaluma River Watershed (colony forming unit per 100 mL)**

| Pollutant Source Category | Estuarine waters Enterococcus | Fresh waters E. Coli |
|---|---|---|
| Department's stormwater runoff | Geometric mean less than 30 Statistical Threshold Value = 110 | Geometric mean less than 100 Statistical Threshold Value = 320 |

***Final Compliance Deadline:*** The TMDL states that the compliance date is six years of the TMDL effective date of the TMDL, which is May 10, 2021. Therefore, the compliance date is May 10, 2027.

*A9.7.7.1.2 Richardson Bay Pathogens Total Maximum Daily Load*

***Description:*** U.S. EPA approved the Richardson Bay Pathogen TMDL on December 18, 2009, which was formerly approved by the San Francisco Bay Water Board. Richardson Bay is impaired by pathogens and the beneficial uses of shellfish harvesting and recreational water contact are not fully supported. Discharges from the Departments stormwater conveyance system are identified to be a source of pathogens.

***Final Waste Load Allocations and Allocations Specific to the Department:*** The Department is assigned specific load allocation for stormwater discharges from its highways. The waste load allocation applicable to the Department's stormwater that discharges directly to Richardson Bay is a median fecal coliform density of:

- Less than 14 most probable number per 100 millimeters, and
- A 90$^{th}$ percentile limit of less than 43 most probable number per 100 millimeters (no more than 10 percent of total samples during any 30-day period may exceed this number).

*Final Compliance Deadline: A final compliance date is not specified in the TMDL. The TMDL states that monitoring results, progress toward attaining TMDL load allocations, and progress towards implementation measures will be evaluated through review of annual reports required under this Order. The*

*TMDL was approved on December 18, 2009; therefore, the final compliance deadline is December 18, 2009.*

*A9.7.7.1.3 San Pedro Creek and Pacifica State Beach Bacteria Total Maximum Daily Load*

***Description*:** U.S. EPA approved the San Pedro and Pacifica State Beach Bacteria TMDL on August 1, 2013, which was formerly adopted by the San Francisco Bay Water Board. The TMDL identifies municipal stormwater runoff as a potential source to discharge bacteria to San Pedro Creek and Pacifica State Beach. Discharges from the Departments stormwater conveyance system are identified to be a source of bacteria.

***Waste Load Allocations and Contributions Specific to the Department:*** The TMDL states the Department's "*existing best management practices and stormwater NPDES permit requirements, as of the effective date of the* TMDL*, are sufficient to attain and maintain its portion of the wasteload allocation*."

***Final Compliance Deadline:*** The final compliance deadline for the Pacifica State Beach TMDL was August 1, 2021. The final compliance deadline for the San Pedro Creek TMDL is August 1, 2028.

A9.7.7.2 Los Angeles Region Bacteria Total Maximum Daily Loads

*A9.7.7.2.1 Ballona Creek, Ballona Estuary, and Sepulveda Channel Bacteria Indicator Densities Total Maximum Daily Load*

***Description:*** The Los Angeles Water Board adopted the revised Ballona Creek, Ballona Estuary, and Sepulveda Channel Bacteria Indicator Densities TMDL, and subsequently the U.S. EPA approved the revised TMDL on July 2, 2014. The creek, estuary, and tributaries are impaired due to bacteria, which is impacting recreational use. This TMDL addresses the impairments by establishing waste load allocations. The major bacteria sources are dry- and wet-weather urban runoff from stormwater conveyance systems, which includes runoff regulated under the Department's stormwater permit. Appendix B to the Ballona Creek TMDL states that the watershed is approximately 81,980 acres, of which the Department has 1,206 acres of right-of-way (approximately 1.5 percent).

***Final Waste Load Allocations:*** The TMDL states that the responsible jurisdictions and responsible agencies within the watershed are jointly responsible for complying with the waste load allocation in each reach. Waste load allocations, as presented in the tables below, are group allocations that are expressed as the allowable number of days a numeric

water quality objective may be exceeded. The numeric water quality objectives are the water contact recreation and limited water contact recreation objectives.

Waste load allocations are expressed as allowable exceedance days because the bacterial density and frequency of single sample exceedances are the most relevant to public health protection. The TMDL requires that these waste load allocations be met at the confluence of each tributary and its downstream reach.

<u>In Marine Waters Designated for Water Contact Recreation</u>

- Geometric Mean Limits
  - Total coliform density shall not exceed 1,000/100 ml.
  - Fecal coliform density shall not exceed 200/100 ml. c. Enterococcus density shall not exceed 35/100 ml.
- Single Sample Limits
  - Total coliform density shall not exceed 10,000/100 ml.
  - Fecal coliform density shall not exceed 400/100 ml.
  - Enterococcus density shall not exceed 104/100 ml.
  - Total coliform density shall not exceed 1,000/100 ml, if the ratio of fecal-to-total coliform exceeds 0.1.

<u>In Fresh Waters Designated for Water Contact Recreation</u>

- Geometric Mean Limits
  - E. coli density shall not exceed 126/100 ml.
- Single Sample Limits
  - *E*. coli density shall not exceed 235/100 ml

<u>In Fresh Waters Designated for Limited Water Contact Recreation (LREC-1)</u>

- Geometric Mean Limits
  - E. coli density shall not exceed 126/100 ml.
- Single Sample Limits
  - E. coli density shall not exceed 576/100 ml.

<u>In Fresh Waters Designated for Non-Contact Water Recreation</u>

- Geometric Mean Limits
  - Fecal coliform density shall not exceed 2000/100 ml.
- Single Sample Limits
  - Fecal coliform density shall not exceed 4000/100 ml.

***Contributions Specific to the Department:*** The TMDL states that responsible agencies and jurisdictions are jointly responsible for joint compliance with joint waste load allocations. Further, State Water Board staff concludes that a Department-specific waste load allocation is

infeasible to determine due to the Department's small percentage of the waste load allocation (e.g., 1.5 percent multiplied by a waste load allocation). Thus, the Department is assigned the joint waste load allocations identified above and expressed as the number of sample days that may exceed the single sample target, as shown in the tables below.

***Final Compliance Deadline:*** The final compliance deadline for the allowable exceedance days during wet and geometric mean targets for all seasonal periods was July 15, 2021.

**Ballona Creek, Ballona Estuary and Sepulveda Channel Bacteria: Final Allowable Exceedance Days by Reach**

| Time Period | Ballona Estuary* | Ballona Creek Reach 2, and Sepulveda Channel * | Ballona Creek Reach 1 |
|---|---|---|---|
| Dry Weather | Zero exceedance days for summer dry-weather<br>Nine exceedance days (daily sampling) or two exceedance days (weekly sampling) based on the applicable Single Sample Bacteria Water Quality Objectives for winter dry-weather | Five exceedance days (daily sampling) or one exceedance day (weekly sampling) based on the applicable Single Sample Bacteria Water Quality Objectives | No more than 10 percent of sample days |
| Wet Weather (days with ≥0.1 inch of rain + 3 days following the rain event) | 17 exceedance days (daily sampling) or three exceedance days (weekly sampling) based on the applicable Single Sample Bacteria Water Quality Objectives | 15*** exceedance days (daily sampling) or two exceedance days (weekly sampling) based on the applicable Single Sample Bacteria Water Quality Objectives | No more than 10 percent of sample days |
| Geometric Mean | Zero exceedances of the Geometric Mean Bacteria Water Quality Objectives | Zero exceedances of the Geometric Mean Bacteria Water Quality Objectives | Zero exceedances of the Geometric Mean Bacteria Water Quality Objectives |

Table Legend:

* = Exceedance days for Ballona Estuary based on water contact recreation (REC-1) marine water numeric targets; for Ballona Creek Reach 2 based on limited water contact recreation (LREC-1) freshwater numeric targets; and for Sepulveda Channel, based on freshwater contact recreation (REC-1) numeric targets.

** = Exceedance frequency for Ballona Creek Reach 1 based on freshwater non-contact water recreation **(**REC-2) numeric targets

*** = In Reach 2, the greater of the allowable exceedance days under the reference system approach or high flow suspension shall apply.

**Ballona Creek, Ballona Estuary and Sepulveda Channel Bacteria, Final Waste Load Allocations as Allowable Exceedance Days for Tributaries to the Impaired Reaches**

| Tributary | Point of Application | Waste Load Allocation (Number of Exceedance Days) |
|---|---|---|
| Ballona Creek Reach 1 | At confluence with Reach 2 | For single sample objectives: Five dry weather, fifteen* wet weather<br>For geometric mean objectives: Zero for all periods |
| Benedict Canyon Channel | At confluence with Reach 2 | For single sample objectives: Five dry weather, fifteen* wet weather<br>For geometric mean objectives: Zero for all periods |
| Ballona Creek Reach 2 | At confluence with Ballona Estuary | For single sample objectives: Zero summer dry-weather, nine winter dry-weather, seventeen wet weather.<br>For geometric mean objectives: (0) for all periods |
| Centinela Creek | At confluence with Ballona Estuary | For single sample objectives: Zero summer dry-weather, nine winter dry-weather, seventeen wet weather.<br>For geometric mean objectives: (0) for all periods |
| Del Rey Lagoon | At confluence with Ballona Estuary | For single sample objectives: Zero summer dry-weather, nine winter dry-weather, seventeen wet weather.<br>For geometric mean objectives: (0) for all periods |

Table Legend

*= At the confluence with Reach 2, the greater of the allowable exceedance days under the reference system approach or high flow suspension shall apply. Sepulveda Channel was not assigned a waste load allocation at its confluence with Reach 2 since the TMDL requires the more stringent water contact recreation (REC-1) objectives to be met in this waterbody, which should lead to the attainment of the less stringent limited water contact recreation (LREC-1) objectives of the downstream reach.

*A9.7.7.2.2 Long Beach City Beaches and Los Angeles River Estuary Indicator Bacteria Total Maximum Daily Load*

***Description:*** U.S. EPA established the Long Beach City Beaches and Los Angeles River Estuary Indicator Bacteria TMDL on March 26, 2012. The TMDL addresses exceedance of indicator bacteria water quality standards. The beaches and estuary are contaminated by bacteria, which poses a health risk to recreational use. This TMDL identifies stormwater runoff as a source, which includes discharges from the Department's stormwater conveyance system. The Department's discharges are identified as a source in some areas in the Los Angeles River Estuary direct drainage, but not in the Long Beach City beaches direct drainage.

***Final Waste Load Allocations:*** Waste load allocations are expressed as the allowable number of days that numeric water quality objectives, as identified in the Basin Plan, may be exceeded. To implement the water quality objectives for e-coli, fecal coliform, enterococcus, and total coliform, the number of exceedance days was set for three seasons (summer dry, winter dry and winter wet).

**Number of Allowable Exceedance Days for Summer Dry Sampling Based on the Reference Year**

| Site Identification | Monitoring Location | Summer Dry Daily Sampling | Summer Dry Weekly Sampling |
|---|---|---|---|
| DHS (010) 4 | Leo Carrillo Beach | 0 | 0 |
| LARE | Los Angeles River Estuary | 0 | 0 |

**Number of Allowable Exceedance Days for Winter Dry and Winter Wet Sampling Based on the Reference Year**

| Site Identification | Monitoring Location | Winter Dry Daily Sampling | Winter Dry Weekly Sampling | Winter Wet Daily Sampling | Winter Wet Weekly Sampling |
|---|---|---|---|---|---|
| DHS (010) 4 | Leo Carrillo Beach | 9 | 2 | 17 | 3 |
| LARE | Los Angeles River Estuary | 9 | 2 | 17 | 3 |

***Contributions Specific to the Department:*** The Department is not assigned a specific load allocation for stormwater discharges. Due to the grouped nature of the waste load allocations, the Department is assigned the joint waste load allocations identified above and expressed as the number of allowable exceedance days, as shown in the tables above.

***Final Compliance Deadline:*** The TMDL did not include an implementation schedule; therefore, the final compliance deadline was March 26, 2012.

*A9.7.7.2.3 Los Angeles River Watershed Bacteria Total Maximum Daily Load*

***Description:*** U.S. EPA established the Los Angeles River Watershed Bacteria TMDL on March 23, 2012. Recreating in waters with elevated bacteria indicator densities has been associated with adverse health effects. Discharges from storm sewer conveyance systems into the Los Angeles River and its tributaries are the principal sources of bacteria contributing to impairment. Discharges from the Department's stormwater conveyance system are identified as a source.

***Final Waste Load Allocations and Contributions Specific to the Department:*** The Department's relative contribution to bacteria pollutant loading is not defined. The Department's stormwater conveyance system covers approximately 6,950 acres, which is equal to approximately one percent of the urban watershed. The table below provides dry weather and wet weather waste load allocations the Department shall comply with.

**Department-specific Final Dry-Weather Waste and Wet-Weather Waste Load Allocation for the Single Sample Targets**

| Allowable Number of Exceedance Days | Daily Sampling | Weekly Sampling |
|---|---|---|
| Dry Weather | 5 | 1 |
| Non-High Flow Suspension Waterbodies Wet Weather | 15 | 2 |
| High Flow Suspension Waterbodies Wet Weather | 10 (not including High Flow Suspension days) | 2 (not including High Flow Suspension days) |

If the final dry weather waste load allocations are not met instream, then a demonstration of compliance with one of the following conditions at outfalls to the receiving waters shall be performed as follows:

1. Flow-weighted concentration of E. coli in stormwater conveyance discharges during dry weather is less than or equal to 235 Most

Probable Number per 100 milliliters, based on a weighted-average using flow rates from all measured outfalls;

2. Zero discharge during dry weather; or
3. Demonstration that the Department's E. coli loading to a segment or tributary during dry weather is less than or equal to 235 Most Probable Number per 100 milliliters.

***Final Compliance Deadline:*** The final compliance deadline ranges from September 23, 2020 to March 23, 2037, depending on the segment of the waterbody, as shown below.

**Final Compliance Deadline for Los Angeles River Watershed Bacteria TMDLs, Dry Weather, First Phase, Segment B (Upper and Middle Reach 2 – Figueroa Street to Rosecrans Avenue)**

| Implementation Action | Responsible Parties | Compliance Date |
|---|---|---|
| Achieve final waste load allocation or demonstrate that non-compliance is due to upstream contributions and submit report to Regional Board | The Department and other municipal separate storm sewer system NPDES permittees discharging to discharging to Segment B, if using alternative compliance plan | March 23, 2022 |

**Final Compliance Deadlines for Los Angeles River Watershed Bacteria TMDLs, Dry Weather Second Phase (if necessary) Load Reduction Strategy Only, Segment B (Upper and Middle Reach 2 – Figueroa Street to Rosecrans Avenue)**

| Implementation Action | Responsible Parties | Compliance Date |
|---|---|---|
| Achieve final WLAs in Segment B or demonstrate that non-compliance is only due to upstream contributions and submit report to Regional Board | The Department and other municipal separate storm sewer system NPDES permittees discharging to Segment B, if using load reduction strategy | September 23, 2028 |

**Final Compliance Deadlines for Los Angeles River Watershed Bacteria TMDLs, Dry Weather, First Phase – Segment B Tributaries (Rio Hondo and Arroyo Seco)**

| Implementation Action | Responsible Parties | Compliance Date |
|---|---|---|
| Achieve final waste load allocation or demonstrate that non-compliance is only due to upstream contributions and submit report to Regional Board | The Department and other municipal separate storm sewer system NPDES permittees discharging to Segment B tributaries, if using alternative compliance plan | September 23, 2023 |

**Final Compliance Deadlines for Los Angeles River Watershed Bacteria TMDLs, Second Phase (if necessary) – Load Reduction Strategy Only, Segment B Tributaries (Rio Hondo and Arroyo Seco)**

| Implementation Action | Responsible Parties | Compliance Date |
|---|---|---|
| Achieve final WLAs Segment B tributaries or demonstrate that non- compliance is due to upstream contributions and submit report to Regional Board | The Department and other municipal separate storm sewer system NPDES permittees discharging to Segment B tributaries, if using load reduction strategy | March 23, 2030 |

**Final Compliance Deadlines for Los Angeles River Watershed Bacteria TMDLs, First Phase, Dry Weather, Segment A (lower Reach 2 and Reach 1 – Rosecrans Avenue to Willow Street)**

| Implementation Action | Responsible Parties | Compliance Date |
|---|---|---|
| Achieve final waste load allocation or demonstrate that non-compliance is due to upstream contributions and submit report to Regional Board | The Department and other municipal separate storm sewer system NPDES permittees discharging to Segment A, if using alternative compliance plan | March 23, 2024 |

**Final Compliance Deadlines for Los Angeles River Watershed Bacteria TMDLs, Second Phase, Dry Weather, Segment A (Lower Reach 2 and Reach 1 – Rosecrans Avenue to Willow Street)**

| Implementation Action | Responsible Parties | Compliance Date |
|---|---|---|
| Achieve final waste load allocation in Segment A or demonstrate that non-compliance is due to upstream contributions and submit report to Regional Board | The Department and other municipal separate storm sewer system NPDES permittees discharging to Segment A, if using load reduction strategy | September 23, 2031 |

**Final Compliance Deadlines for Los Angeles River Watershed Bacteria TMDLs, Dry Weather, First Phase – Segment A Tributary (Compton Creek)**

| Implementation Action | Responsible Parties | Compliance Date |
|---|---|---|
| Achieve interim (or final) waste load allocation and submit report to Regional Board | The Department and other municipal separate storm sewer system NPDES permittees discharging to Segment A tributary if using load reduction strategy | September 23, 2025 |

| Implementation Action | Responsible Parties | Compliance Date |
|---|---|---|
| Achieve final waste load allocation or demonstrate that non-compliance is due to upstream contributions and submit report to Regional Board | The Department and other municipal separate storm sewer system NPDES permittees discharging to Segment A tributary, if using alternative compliance plan | September 23, 2025 |

**Final Compliance Deadlines for Los Angeles River Watershed Bacteria TMDLs, Dry Weather, Second Phase (if necessary), Segment A tributary (Load Reduction Strategy only)**

| Implementation Action | Responsible Parties | Compliance Date |
|---|---|---|
| Achieve final WLAs in Segment A tributary or demonstrate that non-compliance is due to upstream contributions and submit report to Regional Board | The Department and other municipal separate storm sewer system NPDES permittees discharging to Segment A tributary, if using load reduction strategy | March 23, 2032 |

**Final Compliance Deadlines for Los Angeles River Watershed Bacteria TMDLs, Dry Weather, First Phase, Segment E (Reach 6 – Los Angeles River Headwaters at the confluence with Bell Creek and Calabasas Creek to Balboa Boulevard)**

| Implementation Action | Responsible Parties | Compliance Date |
|---|---|---|
| Achieve final waste load allocation or demonstrate that non-compliance is due to upstream contributions and submit report to Regional Board | The Department and other municipal separate storm sewer system NPDES permittees discharging to Segment E, if using alternative compliance plan | March 23, 2025 |

**Final Compliance Deadlines for Los Angeles River Watershed Bacteria TMDLs, Dry Weather, Second Phase, Load Reduction Strategy (If Necessary), Segment E (Reach 6 – Los Angeles River Headwaters at the Confluence with Bell Creek and Calabasas Creek to Balboa Boulevard)**

| Implementation Action | Responsible Parties | Compliance Date |
|---|---|---|
| Achieve final WLAs in Segment E or demonstrate that non-compliance is due to upstream contributions and submit report to Regional Board | The Department and other municipal separate storm sewer system NPDES permittees discharging to Segment E, if using load reduction strategy | September 23, 2031 |

**Final Compliance Deadlines for Los Angeles River Watershed Bacteria TMDLs, Dry Weather, First Phase, Segment E Tributaries (Dry Canyon Creek, McCoy Creek, Bell Creek, and Aliso Canyon Wash)**

| Implementation Action | Responsible Parties | Compliance Date |
|---|---|---|
| Achieve final waste load allocation or demonstrate that non-compliance is due to upstream contributions and submit report to Regional Board | The Department and other municipal separate storm sewer system NPDES permittees discharging to Segment E tributaries, if using alternative compliance plan | March 23, 2029 |

**Final Compliance Deadlines for Los Angeles River Watershed Bacteria TMDLs, Dry Weather, Second Phase (If Necessary), Load Reduction Strategy Only, Segment E tributaries (Dry Canyon Creek, McCoy Creek, Bell Creek, and Aliso Canyon Wash)**

| Implementation Action | Responsible Parties | Compliance Date |
|---|---|---|
| Achieve final WLAs in Segment E tributaries or demonstrate that non- compliance is due to upstream contributions and submit report to Regional Board | The Department and other municipal separate storm sewer system NPDES permittees discharging to Segment E tributaries, if using load reduction strategy | September 23, 2035 |

**Final Compliance Deadlines for Los Angeles River Watershed Bacteria TMDLs, Dry Weather, First Phase, Segment C (Lower Reach 4 and Reach 3 – Tujunga Avenue to Figueroa Street), Segment C Tributaries (Tujunga Wash, Burbank Western Channel, and Verdugo Wash), Segment D (Reach 5 and Upper Reach 4 – Balboa Boulevard to Tujunga Avenue), and Segment D Tributaries (Bull Creek)**

| Implementation Action | Responsible Parties | Compliance Date |
|---|---|---|
| Achieve final waste load allocation or demonstrate that non-compliance is due to upstream contributions and submit report to Regional Board | The Department and other municipal separate storm sewer system NPDES permittees discharging to Segment C, Segment C tributaries, Segment D, Segment D tributaries, if using alternative compliance plan | September 23, 2030 |

**Final Compliance Deadlines for Los Angeles River Watershed Bacteria TMDLs, Dry Weather, Second Phase (If Necessary), Load Reduction Strategy Only, Segment C (Lower Reach 4 and Reach 3 – Tujunga Avenue to Figueroa Street), Segment C Tributaries (Tujunga Wash, Burbank Western Channel, and Verdugo Wash), Segment D (Reach 5 and Upper Reach 4 – Balboa Boulevard to Tujunga Avenue), and Segment D Tributaries (Bull Creek)**

| Implementation Action | Responsible Parties | Compliance Date |
|---|---|---|
| Achieve final waste load allocations in Segment C, Segment C tributaries, Segment D, and Segment D tributaries or demonstrate that non-compliance is due to upstream contributions and submit report to Regional Board | The Department and other municipal separate storm sewer system NPDES permittees discharging to Segment C, Segment C tributaries, Segment D, Segment D tributaries if using load reduction strategy | March 23, 2037 |

**Final Compliance Deadlines for Los Angeles River Watershed Bacteria TMDLs, Dry Weather, All Los Angeles River Segments and Tributaries**

| Implementation Action | Responsible Parties | Compliance Date |
|---|---|---|
| Achieve final wet-weather waste load allocations and submit report to Regional Board demonstrating wet weather and dry weather compliance. | All responsible parties | March 23, 2037 |

*A9.7.7.2.4 Malibu Creek Watershed Bacteria Total Maximum Daily Load*

***Description:*** U.S. EPA established the Malibu Creek Watershed Bacteria TMDL on July 2, 2014. This TMDL includes stormwater runoff and dry weather runoff as possible sources of bacterial contamination. Discharges from the Department's stormwater conveyance system are identified as a source of bacteria. Stormwater permittees are individually responsible for the discharges from their municipal separate storm sewer systems to Malibu Creek, Malibu Lagoon, or tributaries. The TMDL strongly encourages the Department and the County of Los Angeles, Los Angeles County Flood Control District, County of Ventura, Ventura County Watershed Protection District, and municipalities within the Malibu Creek watershed, and the California Department of Parks and Recreation to pool efforts and develop cooperative compliance monitoring programs.

***Final Waste Load Allocations and Contributions Specific to the Department:*** The Department's relative contribution to bacteria pollutant loading is not defined in the TMDL and the Department is jointly responsible for compliance. Waste load allocations are presented in the

table below as allowable number of days that numeric water quality objectives for water contact recreation that may be exceeded. The numeric water quality objectives are as follows:

- Marine Waters Designated for Water Contact Recreation
  Geometric Mean Limits
  - Total coliform density shall not exceed 1,000/100 ml.
  - Fecal coliform density shall not exceed 200/100 ml.
  - *Enterococcus* density shall not exceed 35/100 ml.

  Single Sample Limits
  - Total coliform density shall not exceed 10,000/100 ml.
  - Fecal coliform density shall not exceed 400/100 ml.
  - *Enterococcus* density shall not exceed 104/100 ml.
  - Total coliform density shall not exceed 1,000/100 ml, if the ratio of fecal-to-total coliform exceeds 0.1.
- Fresh Waters Designated for Water Contact Recreation
  Geometric Mean Limits
  - *E. coli* density shall not exceed 126/100 ml.
  - Single Sample Limits
  - *E.* coli density shall not exceed 235/100 ml

***Final Compliance Deadline:*** The final compliance deadline for wet-weather waste load allocations (expressed as allowable exceedance days for wet weather) was July 15, 2021. The final compliance deadline for compliance with the waste load allocations, expressed as allowable exceedance days during dry weather was July 12, 2012.

**Allowable Exceedance Days for Single Sample Limits by Sampling Location**

| Sampling Station Identification | Location Name | Dry Weather Daily | Dry Weather Weekly | Wet Weather Daily | Wet Weather Weekly |
|---|---|---|---|---|---|
| LA RWB | Triunfo Creek | 5 | 1 | 15 | 2 |
| LA RWB | Lower Las Virgenes Creek | 5 | 1 | 15 | 2 |
| LA RWB | Lower Medea Creek | 5 | 1 | 15 | 2 |
| LVMWD (R-9) | Upper Malibu Creek, above Las Virgenes Creek | 5 | 1 | 15 | 2 |
| LVMWD (R-2) | Middle Malibu Creek, below Tapia discharge 001 | 5 | 1 | 15 | 2 |

| Sampling Station Identification | Location Name | Dry Weather Daily | Dry Weather Weekly | Wet Weather Daily | Wet Weather Weekly |
|---|---|---|---|---|---|
| LVMWD (R-3) | Lower Malibu Creek, 3 miles below Tapia | 5 | 1 | 15 | 2 |
| LVMWD (R-4) | Malibu Lagoon, above PCH | 5 | 1 | 15 | 2 |
| LVMWD (R-11) | Malibu Lagoon, below PCH | 9* | 2* | 17 | 3 |
| | Other sampling stations as identified in the Compliance Monitoring Plan | 5 | 1 | 15 | 2 |

Table Notes:

1. The number of allowable exceedances is based on the lesser of the reference system or the existing levels of exceedance based on historical monitoring data.
2. The allowable number of exceedance days is calculated based on the 90th percentile storm year in terms of wet days at the Los Angeles Airport meteorological station.
3. A dry day is defined as a non-wet day.
4. A wet day is defined as a day with a 0.1 inch or more of rain and the three days following the rain event.
5. The number of allowable exceedance days is for the winter dry-weather period. No exceedance days are allowed for the summer dry-weather period.

Sampling Station Legend:

LVMWD: Las Virgenes Municipal Water District
LA RWB: Los Angeles Water Board
PCH: Pacific Coast Highway.

*A9.7.7.2.5 San Gabriel River, Estuary, and Tributaries Indicator Bacteria Total Maximum Daily Load*

***Description:*** The Los Angles Water Board adopted the San Gabriel River, Estuary, and Tributaries Indicator Bacteria TMDL, which was subsequently approved by U.S. EPA on April 14, 2014. Elevated bacteria densities are causing impairment of water recreation uses, which can have adverse effects on human health. Discharges from the Department's stormwater conveyance system are identified to be a source of bacteria.

***Final Waste Load Allocations and Contributions Specific to the Department:*** The Department's relative contribution to bacteria pollutant loading is not defined. The Department's jurisdiction covers one percent of

the watershed. The Department is not assigned a specific load allocation for stormwater discharges. The Department is jointly responsible for complying with the waste load allocation. Waste load allocations are presented in the table below as the allowable number of days that numeric water quality objectives, as provided in the Basin Plan, that may be exceeded for certain time periods. The time periods are defined as summer dry-weather April 1 through October 31; winter dry-weather November 1 through March 31; and wet-weather is the days of 0.1 inch of rain or more plus three days following the rain event.

***Final Compliance Deadline:*** The final compliance deadline is June 14, 2036.

**Waste Load Allocations as Allowable Exceedance Days for Daily and Weekly Sampling in the San Gabriel River Estuary**

| Allowable Number of Exceedance Days | Daily Sampling | Weekly Sampling |
|---|---|---|
| Summer Dry-Weather | 0 | 1 |
| Winter Wet-Weather | 9 | 2 |
| Wet Weather | 20 | 3 |

**Waste Load Allocations as Allowable Exceedance Days as Single Sample Objectives in the San Gabriel River and its Tributaries**

| Allowable Number of Exceedance Days | Daily Sampling | Weekly Sampling |
|---|---|---|
| Dry Weather | 5 | 1 |
| Non-High Flow Suspension | 17 | 3 |
| High Flow Suspension Waterbodies Wet Weather | 11 | 2 (not including High Flow Suspension days) |

*A9.7.7.2.6 Marina del Rey Harbor Mother's Beach and Back Basin Bacteria Total Maximum Daily Load*

***Description:*** U.S. EPA approved the revised Marina del Rey Harbor Mother's Beach and Back Basin Bacteria TMDL on March 18, 2004, which was formerly adopted by the Los Angeles Water Board. This TMDL identifies dry-weather urban runoff and stormwater conveyed by storm drains as the primary source bacteria during dry and wet weather. Discharges from the Department's stormwater conveyance system are identified as a source of bacteria. The Department reported its jurisdiction covers one percent of the watershed.

***Final Waste Load Allocations and Contributions Specific to the Department:*** The Department's relative contribution to bacteria pollutant

loading is not defined in the TMDL. However, the Department's waste load allocations are defined as the allowable number of days that numeric water quality objectives (i.e., numeric targets) may be exceeded. For this TMDL, waste load allocations are based on water quality objectives on an acceptable health risk for marine recreational waters.

The targets apply throughout the year. The final compliance point is the point at which the effluent from a storm drain initially mixes with the receiving water where there is a freshwater outlet (i.e., publicly-owned storm drain) to the beach, or at ankle depth at beaches without a freshwater outlet, and at surface and depth throughout the Marina Del Rey Harbor. For Mothers' Beach the targets apply at existing or new monitoring sites, with samples taken at ankle depth. For Basins D, E, and F the targets apply at existing or new monitoring sites with samples collected at surface and at depth.

The numeric targets are:

- Rolling 30-day Geometric Mean Limits
  - Total coliform density shall not exceed 1,000/100 ml.
  - Fecal coliform density shall not exceed 200/100 ml.
  - Enterococcus density shall not exceed 35/100 ml.
- Single Sample Limits
  - Total coliform density shall not exceed 10,000/100 ml.
  - Fecal coliform density shall not exceed 400/100 ml.
  - Enterococcus density shall not exceed 104/100 ml.
  - Total coliform density shall not exceed 1,000/100 ml, if the ratio of fecal-to-total coliform exceeds 0.1.

Department-specific waste load allocations are included in the table below.

***Final Compliance Deadline:*** The final compliance deadline was July 15, 2021.

**Department-Specific Waste Load Allocations: Marina del Rey Harbor Mothers' Beach and Back Basins Bacteria TMDL, Final Allowable Exceedance Days of the Numeric Targets by Sampling Location**

| Sampling Station Identification | Location Name | Summer Dry Weather Daily | Summer Dry Weather Weekly | Winter Dry Weather Daily | Winter Dry Weather Weekly | Wet Weather Daily | Wet Weather Weekly |
|---|---|---|---|---|---|---|---|
| Marina del Rey Harbor -1 | Mothers' (Marina) Beach, at playground area | 0 | 0 | 3 | 1 | 17 | 3 |
| Marina del Rey Harbor -2 | Mothers' (Marina) Beach, at lifeguard tower | 0 | 0 | 3 | 1 | 17 | 3 |
| Marina del Rey Harbor -3 | Mothers' (Marina) Beach, between lifeguard tower and boat dock | 0 | 0 | 3 | 1 | 17 | 3 |
| Marina del Rey Harbor-4 | Basin D, near first slips outside swim area | 0 | 0 | 3 | 1 | 17 | 3 |
| Marina del Rey Harbor -5 | Basin E, in front of tide-gate from Oxford Basin | 0 | 0 | 3 | 1 | 17 | 3 |
| Marina del Rey Harbor -6 | Basin E, center of basin | 0 | 0 | 3 | 1 | 17 | 3 |
| Marina del Rey Harbor -7 | Basin E, in front of Boone-Olive Pump Outlet | 0 | 0 | 9 | 2 | 17 | 3 |
| Marina del Rey Harbor -8 | Back of Main Channel | 0 | 0 | 9 | 2 | 17 | 3 |
| Marina del Rey Harbor -9 | Basin F, center of basin | 0 | 0 | 9 | 2 | 8 | 1 |

Table Notes and Legend:

1. The number of allowable exceedances is based on the lesser of either the reference system or the existing levels of exceedance based on historical monitoring data.
2. The allowable number of exceedance days during winter dry weather is calculated based on the 10th percentile storm year in terms of dry days at the Los Angeles Airport meteorological station.
3. The allowable number of exceedance days during wet weather is calculated based on the 90th percentile storm year in terms of wet days at the Los Angeles Airport meteorological station. Sampling is done daily or weekly and is reported in number of days.
4. Summer dry weather: April 1 to October 31. Winter dry weather: November 1 to March 31. Wet weather: November 1 to October 31.

α A dry day is defined as a non-wet day. A wet day is defined as a day with a 0.1 inch or more of rain and the three days following the rain event.

*A9.7.7.2.7 Santa Clara River Estuary and Reaches 3, 5, 6, and 7 Indicator Bacteria Total Maximum Daily Load*

***Description:*** U.S. EPA approved the Santa Clara River Estuary and Reaches 3, 5, and 7 Indicator Bacteria TMDL on January 19, 2012, which was formerly adopted by the Los Angeles Water Board. The TMDL identifies dry- and wet-weather urban runoff discharges from the stormwater conveyance systems as significant contributors of bacteria. There are elevated bacterial densities in the watershed that are causing impairment of the water contact recreation uses. Discharges from the Department's stormwater conveyance system are identified to be a source of bacteria.

***Final Waste Load Allocations and Contributions Specific to the Department:*** The Department is not assigned a specific load allocation for stormwater discharges. The Department's relative contribution to the bacteria pollutant loading is not defined, although the Department's jurisdiction covers one percent of the watershed. The Department is jointly responsible for complying with the waste load allocation. Waste load allocations as are presented in the table below as allowable number of days that numeric water quality objectives, as provided in the Basin Plan, may be exceeded.

***Final Compliance Deadline:*** The final compliance deadline is January 19, 2029.

**Santa Clara River Estuary and Reaches 3, 5, 6, and 7, Indicator Bacteria Allowable Exceedance Days**

| Time Period | Santa Clara River Reaches 3, 5, 6, and 7 | Santa Clara River Estuary |
|---|---|---|
| Dry Weather | 5 allowable exceedance days of single sample objectives<br>0 allowable exceedances of geometric mean objectives | Not applicable |
| Wet Weather | 16 allowable exceedance days of single sample objectives<br>0 allowable exceedances of geometric mean objectives | 25 allowable exceedance days of single sample objectives<br>0 allowable exceedances of geometric mean objectives |

| Time Period | Santa Clara River Reaches 3, 5, 6, and 7 | Santa Clara River Estuary |
|---|---|---|
| Summer Dry Weather (April 1 – October 31) | Not applicable | 10 allowable exceedance days of single sample objectives<br>0 allowable exceedances of geometric mean objectives |
| Winter Wet Weather (November 1 – March 31) | Not applicable | 12 allowable exceedance days of single sample objectives<br>0 allowable exceedances of geometric mean objectives |

*A9.7.7.2.8 Santa Monica Bay Beaches Bacteria Total Maximum Daily Load*

***Description:*** U.S. EPA approved the revised and adopted Santa Monica Bay Beaches Bacteria TMDL on July 2, 2014. Bacteria for these beaches exceeds water quality standards that cause impairment of recreational use. Primary sources of impairment are stormwater runoff and dry weather urban runoff that is conveyed by storm drains and creeks. Discharges from the Department's stormwater conveyance system are identified as a source.

***Final Waste Load Allocations and Contributions Specific to the Department:*** The Department is not assigned a specific load allocation for stormwater discharges and the Department's relative contribution is undefined. As reported in the April 7, 2004 Santa Monica Bay Beaches Coordinated Shoreline Monitoring Plan, the Department's jurisdiction covers approximately one percent (497 acres) of the total watershed (41,341 acres). The TMDL states that all responsible jurisdictions and agencies are jointly responsible for complying with the allowable number of exceedance days for each associated shoreline monitoring site. The TMDL states that waste load allocations, as shown in the table below, are expressed as the number of sample days at a shoreline monitoring site that may exceed the numeric target. Waste load allocations are expressed numeric targets and allowable exceedance days because these are the most relevant to public health protection.

- Geometric Mean Limits
  - Total coliform density shall not exceed 1,000/100 ml.
  - Fecal coliform density shall not exceed 200/100 ml.
  - Enterococcus density shall not exceed 35/100 ml.

- Single Sample Limits
  - Total coliform density shall not exceed 10,000/100 ml.
  - Fecal coliform density shall not exceed 400/100 ml.
  - Enterococcus density shall not exceed 104/100 ml.
  - Total coliform density shall not exceed 1,000/100 ml, if the ratio of fecal-to-total coliform exceeds 0.1

Waste load allocations are expressed as allowable number of days that numeric water quality objectives (i.e., numeric targets) may be exceeded. The table below provides the allowable number of days. The allowable number of exceedance days is set for three time periods: 1. summer dry weather (April 1 to October 31); 2. winter dry weather (November 1 to March 31); and 3. wet weather (year-round).

***Final Compliance Deadline:*** The final compliance deadline was July 15, 2021.

**Waste Load Allocations as Allowable Number of Exceedance Days for any Single Sample Numeric Target, Existing Shoreline Monitoring Stations**

| Santa Monica Beaches Station Identification Number | Location Name | Subwatershed | Summer Dry Daily | Summer Dry Weekly | Winter Dry Daily | Winter Dry Weekly | Wet Daily | Wet Weekly |
|---|---|---|---|---|---|---|---|---|
| 1-1 | Leo Cabrillo Beach (Reference Beach) | Arroyo Sequit Canyon | 0 | 0 | 9 | 2 | 17 | 3 |
| 1-2 | El Pescador State Beach | Los Alisos Canyon | 0 | 0 | 1 | 1 | 5 | 1 |
| 1-3 | El Matador State Beach | Encinal Canyon | 0 | 0 | 1 | 1 | 3 | 1 |
| 1-4 | Trancas Creek | Trancas Canyon | 0 | 0 | 9 | 2 | 17 | 3 |
| 1-5 | Zuma Creek | Zuma Canyon | 0 | 0 | 9 | 2 | 17 | 3 |
| 1-6 | Walnut Creek | Ramirez Canyon | 0 | 0 | 9 | 2 | 17 | 3 |
| O-1 [β] | Paradise Cove | Ramirez Canyon | 0 | 0 | 9 | 2 | 15 | 3 |
| 1-7 | Ramirez Creek | Ramirez Canyon | 0 | 0 | 9 | 2 | 17 | 3 |
| 1-8 | Escondido Creek | Escondido Canyon | 0 | 0 | 9 | 2 | 17 | 3 |
| 1-9 | Latigo Canyon Creek | Latigo Canyon | 0 | 0 | 9 | 2 | 17 | 3 |
| 1-10 | Solstice Creek | Solstice Canyon | 0 | 0 | 5 | 1 | 17 | 3 |
| O-2 [β] | Puerco Canyon storm drain | Corral Canyon | 0 | 0 | 0 | 0 | 6 | 1 |
| 1-11 | Wave wash of unnamed creek on Puerco Beach | Corral Canyon | 0 | 0 | 9 | 2 | 17 | 3 |
| 1-12 | Marie Canyon Storm Drain on Puerco Beach | Corral Canyon | 0 | 0 | 9 | 2 | 17 | 3 |
| 1-13 | Sweetwater Creek on Carbon Beach | Carbon Canyon | 0 | 0 | 9 | 2 | 17 | 3 |
| 1-14 | Las Flores Creek | Las Flores Canyon | 0 | 0 | 6 | 1 | 17 | 3 |
| 1-15 | Big Rock Beach at 19948 Pacific Coast Hwy | Piedra Gorda Canyon | 0 | 0 | 9 | 2 | 17 | 3 |
| 1-16 | Pena Creek | Pena Canyon | 0 | 0 | 3 | 1 | 14 | 2 |
| 1-17 | Tuna Canyon Creek | Tuna Canyon | 0 | 0 | 7 | 1 | 12 | 2 |
| 1-18 | Topanga Creek | Topanga Canyon | 0 | 0 | 9 | 2 | 17 | 3 |
| 4-1 | San Nicholas Canyon Creek | Nicholas Canyon | 0 | 0 | 4 | 1 | 14 | 2 |
| 2-1 | Castlerock (Parker Mesa) Storm Drain | Castlerock Canyon | 0 | 0 | 9 | 2 | 17 | 3 |
| 2-2 | Santa Ynez Storm Drain | Santa Ynez Canyon | 0 | 0 | 9 | 2 | 17 | 3 |
| 2-3 | Will Rogers State Beach at 17200 Pacific Coast Hwy. | Santa Ynez Canyon | 0 | 0 | 9 | 2 | 17 | 3 |
| 2-4 | Pulga Canyon storm drain | Pulga Canyon | 0 | 0 | 9 | 2 | 17 | 3 |
| 2-5 | Temescal Storm Drain | Pulga Canyon | 0 | 0 | 9 | 2 | 17 | 3 |
| 2-6 | Bay Club Storm Drain | Santa Ynez Canyon | 0 | 0 | 9 | 2 | 17 | 3 |
| 2-7 | Santa Monica Canyon, Will Rogers State Beach | Santa Monica Canyon | 0 | 0 | 9 | 2 | 17 | 3 |
| 2-8 | Venice Pier, Venice | Ballona | 0 | 0 | 9 | 2 | 17 | 3 |
| 2-9 | Topsail Street extended | Ballona | 0 | 0 | 9 | 2 | 17 | 3 |
| 2-10 | Dockweiler State Beach at Culver Bl. Storm Drain | Dockweiler | 0 | 0 | 9 | 2 | 17 | 3 |
| 2-11 | North Westchester Storm Drain | Dockweiler | 0 | 0 | 0 | 0 | 17 | 3 |

| Santa Monica Beaches Station Identification Number | Location Name | Subwatershed | Summer Dry Daily | Summer Dry Weekly | Winter Dry Daily | Winter Dry Weekly | Wet Daily | Wet Weekly |
|---|---|---|---|---|---|---|---|---|
| 2-12 | World Way extended | Dockweiler | 0 | 0 | 9 | 2 | 17 | 3 |
| 2-13 | Imperial Highway storm drain (Dockweiler) | Dockweiler | 0 | 0 | 4 | 1 | 17 | 3 |
| 2-14 | Opposite Hyperion Plant, 1 mile | Dockweiler | 0 | 0 | 9 | 2 | 17 | 3 |
| 2-15 | Grand Avenue Storm Drain | Dockweiler | 0 | 0 | 9 | 2 | 17 | 3 |
| 3-1 | Montana Ave. Storm Drain | Santa Monica | 0 | 0 | 9 | 2 | 17 | 3 |
| 3-2 | Wilshire Blvd., Santa Monica | Santa Monica | 0 | 0 | 9 | 2 | 17 | 3 |
| 3-3 | Santa Monica Municipal Pier at storm drain | Santa Monica | 0 | 0 | 9 | 2 | 17 | 3 |
| 3-4 | Santa Monica Beach at Pico/Kenter storm drain | Santa Monica | 0 | 0 | 9 | 2 | 17 | 3 |
| 3-5 | Ashland Av. storm drain (Venice) | Santa Monica | 0 | 0 | 9 | 2 | 17 | 3 |
| 3-6 | Rose Ave. Storm Drain on Venice Beach | Santa Monica | 0 | 0 | 6 | 1 | 17 | 3 |
| 3-7 | Venice City Beach at Brooks Storm Drain (projection of Brooks Ave.) | Ballona | 0 | 0 | 9 | 2 | 17 | 3 |
| 3-8 | Venice Pavilion at projection of Windward Av. | Ballona | 0 | 0 | 9 | 2 | 17 | 3 |
| 3-9 | Strand Street extended | Santa Monica | 0 | 0 | 9 | 2 | 17 | 3 |
| 5-1 | Manhattan State Beach at 40th Street (El Porto Beach) | Hermosa | 0 | 0 | 1 | 1 | 4 | 1 |
| 5-2 | Terminus of 28th Street Drain in Manhattan Beach | Hermosa | 0 | 0 | 9 | 2 | 17 | 3 |
| 5-3 | Manhattan Beach Pier | Hermosa | 0 | 0 | 3 | 1 | 6 | 1 |
| 5-4 | Near 26th Street on Hermosa Beach | Hermosa | 0 | 0 | 3 | 1 | 12 | 2 |
| 5-5 | Hermosa Beach Pier | Hermosa | 0 | 0 | 2 | 1 | 8 | 2 |
| 6-1 | Herondo Storm Drain | Redondo | 0 | 0 | 9 | 2 | 17 | 3 |
| 6-2 | Redondo Municipal Pier - 100 yards south | Redondo | 0 | 0 | 3 | 1 | 14 | 2 |
| 6-3 | 4' × 4' outlet at projection of Sapphire Street | Redondo | 0 | 0 | 5 | 1 | 17 | 3 |
| 6-4 | 120' north of Topaz groin | Redondo | 0 | 0 | 9 | 2 | 17 | 3 |
| 6-5 | Storm Drain at Projection of Avenue I | Redondo | 0 | 0 | 4 | 1 | 11 | 2 |
| 6-6 | Malaga Cove, Palos Verdes Estates | Redondo | 0 | 0 | 1 | 1 | 3 | 1 |
| 7-1 | Malaga Cove | Palos Verdes | 0 | 0 | 1 | 1 | 14 | 2 |
| 7-2 | Bluff Cove | Palos Verdes | 0 | 0 | 1 | 1 | 0 | 0 |
| 7-3 | Long Point | Palos Verdes | 0 | 0 | 1 | 1 | 5 | 1 |
| 7-4 | Abalone Cove | Palos Verdes | 0 | 0 | 0 | 0 | 1 | 1 |
| 7-5 | Portuguese Bend Cove | Palos Verdes | 0 | 0 | 1 | 1 | 2 | 1 |
| 7-6 | Royal Palms | Palos Verdes | 0 | 0 | 1 | 1 | 6 | 1 |
| 7-8 | Wilder Annex | Palos Verdes | 0 | 0 | 1 | 1 | 2 | 1 |
| 7-9 | Outer Cabrillo Beach | Palos Verdes | 0 | 0 | 1 | 1 | 3 | 1 |

| Santa Monica Beaches Station Identification Number | Location Name | Subwatershed | Summer Dry Daily | Summer Dry Weekly | Winter Dry Daily | Winter Dry Weekly | Wet Daily | Wet Weekly |
|---|---|---|---|---|---|---|---|---|
| MC-1 | Malibu Point, Malibu Colony Dr. | Malibu Canyon | 0 | 0 | 9 | 2 | 17 | 3 |
| MC-2 | Surfrider Beach (breach point of Malibu Lagoon) | Malibu Canyon | 0 | 0 | 9 | 2 | 17 | 3 |
| MC-3 | Malibu Pier on Carbon Beach | Malibu Canyon | 0 | 0 | 9 | 2 | 17 | 3 |

Table Notes:

1. The allowable number of exceedance days during winter dry weather is calculated based on the 10th percentile year in terms of non-wet days at the Los Angeles Airport meteorological station.
2. The number of allowable exceedances during winter dry weather is based on the lesser of 1) the reference system or 2) existing levels of exceedance based on historical shoreline data.
3. Detailed descriptions of the sampling locations are provided in the Santa Monica Bay Beaches Bacterial TMDLs Coordinated Shoreline Monitoring Plan.
4. Daily and Weekly sampling data are in units of number of days.

Table Legend:

α Dry weather days are defined as those with less than 0.1 inch of rain and those days not less than 3 days after a rain day. Rain days are defined as those with greater than or equal to 0.1 inch of rain.

β Monitoring began in 2010 and data was examined from April 2010 to November 2011.

A9.7.7.3 Colorado River Region Bacteria Total Maximum Daily Load

*A9.7.7.3.1 Coachella Valley Stormwater Channel Bacterial Indicators TMDL*

***Description**:* U.S. EPA approved the Coachella Valley Stormwater Channel Bacterial Indicators TMDL on April 27, 2012, which was formerly adopted by the Colorado River Water Board. Bacterial indicators for E. coli concentrations exceed water quality objectives for warm water ecosystems, endangered species, and recreational uses. The TMDL identifies flows from urban storm sewer systems as a source, which includes the Department's stormwater conveyance system discharges.

***Final Waste Load Allocations**:* The Department is one of three point source discharges that have been assigned the same E. coli allocation. The Department's allocations are presented in the table below and are expressed as E. coli concentrations in most probable number per 100 milliliters.

***Final Compliance Deadline:*** The final compliance deadline is July 15, 2022.

**Department-Specific E. Coli Allocation**

| Parameter | E. Coli Allocation |
|---|---|
| E. coli | Less than or equal to the 126 Most Probable Number per 100 milliliters (based on a minimum of not less than five samples during a 30-day period)<br>or<br>400 Most Probable Number per 100 milliliters for a single sample |

A9.7.7.4 San Diego Region Bacteria Total Maximum Daily Load

*A9.7.7.4.1 Project I – Twenty Beaches and Creeks in the San Diego Region (including Tecolote Creek) Indicator Bacteria, Revised Total Maximum Daily Load*

The beaches included in this TMDL include: Pacific Ocean Shoreline, San Joaquin Hills hydrologic subarea; Pacific Ocean Shoreline, Laguna Beach hydrologic subarea; Aliso Creek; Aliso Creek (mouth); Pacific Ocean Shoreline, Aliso hydrologic subarea; Pacific Ocean Shoreline, Dana Point hydrologic subarea; San Juan Creek; Juan Creek (mouth); Pacific Ocean Shoreline, Lower San Juan hydrologic subarea; Pacific Ocean Shoreline, San Clemente hydrologic area; Pacific Ocean Shoreline, San Luis Rey hydrologic unit; Pacific Ocean Shoreline, San Marcos hydrologic area; Pacific Ocean Shoreline, San Dieguito hydrologic unit; Pacific Ocean Shoreline, Miramar Reservoir hydrologic area; Pacific Ocean Shoreline, Scripps hydrologic area; Tecolote Creek; Forester Creek; San Diego River (Lower); Pacific Ocean Shoreline, San Diego hydrologic unit; and Chollas Creek.

The Project I-Twenty Beaches and Creeks indicator bacteria TMDL sets the Department's wet weather waste load allocations equal to existing loads because the Department's discharges were found to account for less than one percent of the aggregate wet weather loads. The TMDL assumes that dry weather runoff from the Department's right-of-way does not discharge to receiving waters. To ensure that the Department continues to comply with the dry weather and wet weather waste load allocations, this Order implements the TMDL by requiring the Department to monitor for indicator bacteria and to implement best management controls for the bacteria.

Per the TMDL, this Order encourages the Department to participate in a local or regional monitoring program. At the TMDL compliance deadlines, the receiving waters must meet the receiving water limitations to be considered in compliance with the TMDL waste load allocations.

***Description:*** U.S. EPA approved the Project I–Twenty Beaches and Creeks Bacteria Revised TMDL on June 22, 2011. Bacteria exceeds water quality standards, and municipal runoff is identified as a point source contributing to impairment. Both dry and wet weather runoff are sources, including wet weather discharges from the Department's stormwater conveyance system.

***Final Waste Load Allocations Specific to the Department:*** The Department is identified as a point source contributing to the impairment of the watershed. The waste load allocations are expressed as numeric targets in receiving water, as shown in the two tables, below. An exceedance is also defined in these two tables. The TMDL states that if the receiving water limitations are met in the receiving waters, the assumption will be that Department has met its waste load allocations. If, however, the receiving water limitations are not being met in the receiving waters, and the Department's stormwater systems are identified as a source of bacteria causing exceedances, then the Department will be responsible for reducing its bacteria loads and/or demonstrating that controllable anthropogenic discharges from the Department's stormwater systems are not causing the exceedances

***Final Compliance Deadline:*** The final compliance deadline for the dry weather receiving water limitation was April 4, 2021. The final compliance deadline for the wet weather receiving water limitation is April 4, 2031.

In the two tables below, MPN/100 ml is the most probable number per 100 milliliters.

**Receiving Water Limitations for Beaches**

| Indicator Bacteria | Wet Weather Numeric Objective (MPN/100 mL) | Wet Weather Allowable Exceedance Frequency | Dry Weather Numeric Objective (MPN/100 mL) | Dry Weather Allowable Exceedance Frequency |
|---|---|---|---|---|
| Fecal Coliform | 400 | 22% | 200 | 0% |
| Total Coliform | 10,000 | 22% | 1,000 | 0% |
| Enterococcus | 104 | 22% | 35 | 0% |

Table Legend:

Wet weather days are the days with rainfall events of 0.2 inches or greater and the following 72 hours.

Dry weather days are the days with less than 0.2 inch of rainfall observed on each of the previous 3 days.

**Receiving Water Limitations for Creeks**

| Indicator Bacteria | Wet Weather Numeric Objective (MPN/100 mL) | Wet Weather Allowable Exceedance Frequency | Dry Weather Numeric Objective (MPN/100 mL) | Dry Weather Allowable Exceedance Frequency |
|---|---|---|---|---|
| Fecal Coliform | 400 | 22% | 200 | 0% |
| Enterococcus | 61 | 22% | 33 | 0% |

Table Legend:

Wet weather days are the days with rainfall events of 0.2 inches or greater and the following 72 hours.

Dry weather days are the days with less than 0.2 inch of rainfall observed on each of the previous 3 days.

*A9.7.8 Pollutant Category—Diazinon Total Maximum Daily Load*

***General Description of Pollutant Category:*** Diazinon is an organophosphate insecticide that is widely used in agriculture to control insects. Residential use of diazinon was banned in the United States in 2004.

***Sources of Pollutant and How the Pollutant Enters the Waterway:*** The most significant source of diazinon is runoff from agricultural land use that enters receiving waters via stormwater conveyance systems.

***Watershed Contribution:*** The Department does not use diazinon. The Department is identified as a source of diazinon because it owns and operates stormwater conveyance systems that receive agricultural runoff and discharge to receiving waters.

**Control Measures:** A integrated pest management program that prohibits the use of diazinon and continued implementation of other pollutant control activities required by this Order are the control measures for implementation of this TMDL.

A9.7.8.1 San Francisco Bay Urban Creeks Diazinon and Pesticide Toxicity Total Maximum Daily Load

***Description***: The San Francisco Bay Urban Creeks Diazinon and Pesticide Toxicity TMDL was approved by U.S. EPA on May 16, 2007. The TMDL explains that the exceedances of water quality objectives in these water bodies are due to urban runoff flows through storm drains as operated by all stormwater entities including the Department.

***Final Diazinon Waste Load:*** The waste load allocation for each stormwater entity is 100 ng/L as a one-hour average. The pesticide-related toxicity waste load allocations are not to exceed 1.0 Toxicity Unit acute or 1.0 Toxicity Unit chronic.

***Contributions Specific to the Department:*** The TMDL does not include specific allocations for the Department. The proportionate contribution from the Department's roads is not defined.

***Final Compliance Deadline:*** The TMDL does not include a final compliance. deadline. The TMDL was approved by the U.S. EPA on November 16, 2005; therefore, the final compliance deadline was November 16, 2005. The TMDL states that pesticide-related toxicity is to be eliminated and prevented by using pest management alternatives that protect water quality and by not using pesticides that threaten water quality, which is accomplished through compliance with this Order.

A9.7.8.2 San Diego Region Diazinon Total Maximum Daily Load

*A9.7.8.2.1 Chollas Creek Diazinon Total Maximum Daily Load*

***Description:*** The Chollas Creek Diazinon TMDL was approved by U.S. EPA on November 3, 2003. This TMDL was established because diazinon exceeds water quality standards, and excessive diazinon in the creek has contributed to aquatic toxicity. The beneficial uses of Chollas Creek include protection of aquatic life of the warm freshwater habitat. Diazinon sources include urban stormwater flows to the creek, including the Department and other municipal separate stormwater system permittees.

***Final Waste Load Allocations and Contributions Specific to the Department****:* According to the TMDL, the Department is responsible for the major freeways and roadways making up approximately four percent of the land in the watershed. Contributions specific to the department are not identified.

Instead, the concentration-based waste load allocations provided below are applied equally to all diazinon discharge sources in the Chollas Creek watershed, Including the Department.

**Chollas Creek Final Diazinon Waste Load Allocations (nanograms per liter)**

| Waterbody | Diazinon Acute (1-hour average) | Diazinon Chronic (4-day average) |
|---|---|---|
| Chollas Creek | 72 | 45 |

***Final Compliance Deadline:*** The TMDL does not include a final compliance deadline. The TMDL was by U.S. EPA on November 3, 2003. Therefore, the final compliance deadline was November 3, 2003.

*A9.7.9 Pollutant Category—Selenium Total Maximum Daily Load*

***General Description of Pollutant Category:*** Selenium is a naturally occurring element found in geologic formations and soils. When ingested, selenium bioaccumulates to levels that cause severe impacts to invertebrates, fish, birds that prey on fish, and humans. Selenium has been found in high levels in some receiving waters.

***Sources of Pollutant and How Pollutant Enters the Waterway***: Selenium enters receiving waters via stormwater runoff, construction dewatering, ground water seepage, and irrigation runoff from soils with high selenium content.

***Department's Watershed Contribution***: The Department is a relatively minor source of selenium since the sources of selenium have been found to not be transportation related. The Department has not been assigned a waste load allocation for any watershed.

***Control Measures:*** Compliance with the selenium TMDLs is through continued implementation of other pollutant control activities required by this Order.

A9.7.9.1 Los Angeles Region Selenium Total Maximum Daily Load

*A9.7.9.1.1 Ballona Creek Selenium Total Maximum Daily Load*

***Description:*** Los Angeles Water Board Resolution R07-015 included a TMDL for selenium in Ballona Creek and specified a waste load allocation for the Department. In an amendment to the Basin Plan adopted under Attachment A to its Resolution R13-010 on December 5, 2013, the Los Angeles Water Board determined that selenium is not present at levels exceeding numeric targets and is not impairing the designated beneficial uses; therefore, selenium is excluded from the TMDL. U.S. EPA approved the revised selenium TMDL on October 26, 2015.

*A9.7.9.1.2 Calleguas Creek, Tributaries, and Mugu Lagoon Selenium Total Maximum Daily Load*

***Description:*** The Calleguas Creek, Tributaries, and Mugu Lagoon TMDL was developed to reduce excessive selenium concentrations in the water body and to assign waste load allocations to major sources, which includes NPDES stormwater permittees. U.S. EPA approved the TMDL on March 26, 2007. A revised TMDL was adopted by the Los Angeles Water Board on October 13, 2016 and was approved by the U.S. EPA on June 9, 2017. Selenium sources were analyzed as a function of wet and dry weather. Research showed that higher loads were delivered during wet weather due to the association between metals and particulate matter.

***Final Selenium Waste Load Allocations****:* The TMDL specifies a group concentration-based waste load allocation for NPDES permitted stormwater discharges, including municipal separate storm sewer systems, the Department, general industrial and construction stormwater permittees, and the Naval Air Weapons Station Point Mugu. The TMDL specifies waste load allocations as receiving water limits measured in-stream at the base of Revolon Slough and Calleguas Creek, and in Mugu Lagoon and will be achieved through the implementation of BMPs as outlined in the implementation plan.

Waste load allocations are applied to receiving waters for dry and wet weather. Dry weather is defined as days when stream flows are less than the $86^{th}$ percentile of the flow rate for each reach. Wet weather is defined as flows greater than $86^{th}$ percentile. The daily maximum interim limit is set equal to the $99^{th}$ percentile of available discharge data, the monthly average interim limit is set equal to the $95^{th}$ percentile.

Final waste load allocations were not developed for the Calleguas and Conejo Creek tributaries.

Group waste load allocations for NPDES permitted stormwater dischargers for selenium in Revolon Slough are:

- Dry weather: Expressed in pounds per day is 0.004 low flow, 0.003 average flow, and 0.004 elevated flow.
- Wet weather: Expressed in pounds per day as $0.027 \times Q^2+0.47 \times Q$, where Q (flowrate) equals the daily storm volume, and $Q^2$ is the square of the daily storm volume. Current loads do not exceed the loading capacity during wet weather, therefore no additional action by the Department is needed during wet weather.

***Contributions Specific to the Department:*** Contributions and waste load allocations specific to the Department are not specified. Instead, a group concentration-based waste load allocation has been assigned for all permitted

NPDES stormwater discharges, including the Department, municipal separate storm sewer system permitees, and general industrial and construction stormwater permitees.

***Final Compliance Deadline:*** The TMDL does not include a final compliance deadline. The TMDL was approved by U.S. EPA on June 9, 2017. Therefore, the final compliance deadline was June 9, 2017.

*A9.7.9.1.3 San Gabriel River and Impaired Tributaries Selenium Total Maximum Daily Load*

***Description:*** On March 26, 2007, U.S. EPA established the San Gabriel River TMDL for Selenium because the river exceeds selenium water quality standards. The San Gabriel River TMDL includes a dry weather selenium TMDL in San Jose Creek Reach 1. Excessive selenium is present in local marine sedimentary rocks and much of the selenium in San Jose Creek results from natural soils. Other potential sources are identified as mobilization of groundwater, such as by dewatering, irrigation of soils naturally high in selenium, and discharges from petroleum-related activities.

***Final Waste Load Allocations and Contributions Specific to the Department****:* This TMDL sets a dry-weather selenium waste load allocation of five micrograms per liter for all combined municipal stormwater discharges to San Jose Creek. No specific selenium waste load allocations are assigned to the Department. The dry-weather waste load allocations for the stormwater permittees are shared by the municipal separate storm sewer system permittees and the Department because there is not enough data on the relative extent of municipal separate storm sewer system and the Department's areas. There is no proportional responsibility specific to the Department.

***Final Compliance Deadline:*** The final compliance deadline is September 30, 2023.

*A9.7.10 Pollutant Category—Temperature Total Maximum Daily Load*

***General Description of Pollutant Category:*** The North Coast Water Quality Control Plan (also referred to as Basin Plan) is the only region with temperature TMDLs, and it defines the water quality objective for temperature as follows:

***Estuaries:*** For estuaries, the Water Quality Control Plan incorporates by reference the statewide plan entitled "Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays of California.

***Surface Waters:*** The following temperature objectives apply to surface waters. The natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Water Board that such alteration in temperature does not adversely affect beneficial uses. At no time or place shall the temperature of any cold freshwater habitat water be increased by

more than five degrees Fahrenheit above natural receiving water temperature. At no time or place shall the temperature of warm freshwater habitat of intrastate waters be increased more than five degrees Fahrenheit above natural receiving water temperature.

***Beneficial Uses:*** The designated beneficial uses affected by thermal pollution of receiving waters include cold freshwater habitat; preservation of rare and endangered species; fish migration; and fish spawning; commercial and sport fishing; and contact and non-contact water recreation.

***Sources of Temperature and its Impacts on the Waterway*:** Anthropogenic processes that influence water temperature include changes to stream shade, stream flow via changes in groundwater accretion, streamflow via surface water use, changes to local microclimates, and channel geometry. Sediment transport and deposition affects stream bed depth and width, thereby increasing the potential for temperature rise. Road construction and maintenance can, for example, involve the removal of some riparian vegetation, thus increasing ambient water temperature along the affected segment of a surface water body unless this impact is minimized via re-planting and/or by reducing the amount of vegetation removed.

Natural sources of sediment which can increase receiving water temperatures include geologically unstable areas that are subject to landslides, as well as smaller sediment sources such as gullies and stream-bank failures. Anthropogenic sources include road-related stream crossing failures, gullies, fill failures, and landslides precipitated by road-related surface erosion and cut bank failures. Road-related activities which can increase sediment discharge to a waterway include the construction and maintenance of paved and unpaved roadways, watercourse crossing construction, reconstruction, maintenance, use, and obliteration, and many activities conducted on unstable slopes. Unstable areas are areas with a naturally high risk of erosion and areas or sites that will not reasonably respond to efforts to prevent, restore, or mitigate sediment discharges. Unstable areas are characterized by slide areas, gullies, eroding stream banks, or unstable soils that can deliver sediment to a watercourse. Slide areas include shallow and deep-seated landslides, debris flows, debris slides, debris torrents, earthflows, headwall swales, inner gorges, and hummocky ground. Unstable soils include unconsolidated, non-cohesive soils and colluvial debris.

***Control Measures*:** Temperature TMDLs identify pollutant loads and waste load and load allocations, which in the North Coast Region typically include allocations to sources such as timber harvest, skid trails, roads, agriculture, and natural background. TMDLs use the best available information to construct source analyses, loading capacities, and assign waste load and load allocations to individual source categories. North Coast Region temperature TMDLs are implemented either under Action Plans or Policies adopted by the Regional Water

Quality Control Board as amendments to the *Water Quality Control Plan for the North Coast Region* (Basin Plan). Action Plans and Policies are amended into the Basin Plan through Resolutions of the North Coast Water Board. The total maximum daily load Action Plans and Temperature Implementation Policy, and related Resolutions and workplans contain the key implementation directives for sediment and temperature discharge control in the North Coast Region, as described below.

Resolution No. R1-2014-0006, *Amending the Water Quality Control Plan for the North Coast Region to include the Policy for the Implementation of the Water Quality Objectives for Temperature, and Action Plans to Address Temperature* Impairments *in the Mattole, Navarro, and Eel River Watersheds (*Temperature Implementation Policy) requires the following actions to achieve temperature objectives and implement temperature total maximum daily loads, including EPA-established TMDLs: 1) restore and maintain riparian shade, as appropriate, through nonpoint source control programs, permits and waivers, grants and loans, and enforcement actions; 2) support restoration projects; and coordinate with other agencies with jurisdiction over controllable factors that influence water temperature, as appropriate; 3) continue to implement the Sediment TMDL Implementation Policy as a means of addressing elevated water temperature associated with excess sediment discharges; and 4) implement sediment controls consistent with the approach articulated in the Sediment total maximum daily load Implementation Policy to address temperature concerns associated with sediment in areas not impaired by sediment.

The Basin Plan for the North Coast Region notes, “The removal of vegetation that provides shade to a waterbody is a controllable water quality factor.” Riparian shade-related temperature TMDL allocations are based on the concept of “site-specific potential effective shade,” which means the shade equivalent to that provided by topography and potential vegetation conditions at a site. Shade controls that are effective at correcting temperature impairments also operate to prevent impairments and provide other water quality protections such as bank stability and filtration of sediment and other waste discharges. The North Coast Water Board has discretion on how to implement load allocations on a case-by-case basis. This policy is not intended to predetermine precise parameters for riparian shade for a specific location or land use. Where non-Water Board programs provide riparian shade that result in attainment of water quality standards, the Regional Water Board will rely on and incorporate those programs.”

Furthermore, the Basin Plan for the North Coast Region contains specific total maximum daily load Action Plans for certain watersheds, which are consistent with the direction provided in the Temperature Implementation Policy.

In summary, the Action Plans, Policies, Permits, and staff workplans adopted and/or recognized by the North Coast Water Board require the Department to

restore lost riparian shade that has occurred previously and has the potential in the future to result from the presence of State Highways and their ongoing repair and maintenance.

A9.7.10.1 North Coast Region Temperature Total Maximum Daily Loads

The North Coast Water Board temperature TMDLs include requirements for riparian restoration. The travelled way and shoulders of the Department's highways are incompatible with the growth of trees and other vegetation that produces shade along a bank of natural watercourses. This growth is referred to as riparian shade. For the temperature TMDLs, the Department's contribution is a proportional responsibility of riparian shade which cannot exist within the intersection of the Department's highways and a streamside riparian corridor.

The temperature TMDLs assign load allocations as the percent of shade along a stream segment. This Order implements the temperature TMDLs by requiring riparian restoration according to the Department's proportional responsibility.

The acreage of riparian shade to be restored is equal to the roadway area within the riparian setback. The riparian setback was determined by the North Coast Water Board staff by creating a 200-foot buffer width along each side of United States Geological Survey mapped blue-line streams along the intersection of the Department's highways. The Department provided maps with GIS layers of blue line streams and roadway widths/lengths. North Coast Water Board staff developed the area of Department highways and proportional responsibility shown in the following table. This Order requires riparian restoration as shown in the following table:

**Table A-4. Department's Proportional Responsibility of Riparian Shade**

| Watershed | Area of Department Highways in the Watershed (acres) | Department's Proportional Responsibility of Riparian Shade (acres) |
|---|---|---|
| Eel River, Lower Hydrologic Area | 456 | 37 |
| Eel River, Middle Fork | 57 | 17 |
| Eel River, South Fork | 748 | 143 |
| Eel River, Upper Main | 255 | 127 |
| Klamath River | 166 | 61 |
| Navarro River | 166 | 61 |
| Scott River | 163 | 28 |
| Shasta River | 869 | 131 |

*A9.7.10.1.1 Eel River (Lower Hydrologic Area) Temperature Total Maximum Daily Load*

***Description:*** On December 18, 2007, U.S. EPA established the Lower Eel River TMDL for Temperature and Sediment due to elevated temperatures resulting in a large decrease of salmon and steelhead populations.

***Final Waste Load Allocations, Load Allocations, and Contribution Specific to the Department****:* Point source Waste load allocations are not assigned. Nonpoint sources are responsible for most heat loading in the watershed. The temperature TMDLs assign load allocations as the percent of riparian shade along a stream segment. The Department-specific proportional responsibility for restoration of riparian shade is specified in Table A-4 above.

***Final Compliance Deadline:*** On December 18, 2007, U.S. EPA established this TMDL. An implementation schedule was not included; therefore, the final compliance deadline was December 18, 2007.

*A9.7.10.1.2 Middle Fork Eel River, Eden Valley, and Round Valley Hydrologic Subareas Temperature Total Maximum Daily Load*

***Description:*** U.S. EPA established the Middle Fork Eel River TMDL for Temperature on December 31, 2003 because the river exceeds temperature water quality standards that results in cold-water fish decline. Removal of trees in the riparian area is a contributing factor of increased temperature. A primary cause of stream temperatures appears to be the 1964 flood; the rainfall associated with the flood was natural, but the effects resulting from rain were exacerbated by land management activities in the basin. Thus, elevated temperatures are the result of natural and anthropogenic factors. U.S. EPA concluded that shade is the factor in the Middle Fork Eel basin that is most likely to be altered by human activities from natural conditions; thus, the TMDL focuses on shade. The heat loading capacity is allocated to the various sources of heat in the watershed.

***Load Allocations and Contribution Specific to the Department:*** This TMDL assigns load allocations, which are defined as percent of shade along a stream segment and by temperature. While the Department is not assigned a specific allocation, roads in general are a source. The load allocation is best achieved by allowing trees to grow to provide the equivalent amount of shade that would be provided under natural conditions. The temperature TMDLs assign load allocations as the percent of riparian shade along a stream segment. The Department-specific proportional responsibility for restoration of riparian shade is specified in Table A-4 above. Further, the tables below list the Department-specific required effective shade allocations by percent of stream shaded on each stream segment and the temperature allocation by subarea.

***Final Deadline:*** On December 31, 2003, U.S. EPA established the TMDL. An implementation schedule was not included; therefore, the final deadline was December 31, 2003.

**Department-specific Effective Shade Load Allocations Expressed as Percent of Stream Shaded and by Stream Width in Meters**

| Vegetation Type | 1 - 2 meters | 2 - 5 meters | 5 - 10 meters | 10 - 15 meters | 15 - 20 meters | 20 - 30 meters |
|---|---|---|---|---|---|---|
| Mixed Conifer | 96% | 91% | 82% | 68% | 52% | 37% |
| Mixed Hardwood/Conifer dominated | 96% | 90% | 79% | 67% | 49% | 33% |
| Mixed Hardwood/conifer Hardwood dominated | 96% | 90% | 79% | 66% | 49% | 33% |
| Mixed Hardwood | 95% | 90% | 78% | 65% | 47% | 33% |
| Mixed Oak Woodlands | 95% | 89% | 78% | 64% | 44% | 26% |

**Department-specific Temperature Load Allocations by Subarea Expressed as Percent Shade**

| Upper Black Butte Subarea | North Fork Middle Fork Subarea | Basin Wide |
|---|---|---|
| 74 percent | 69 percent | 72 percent |

*A9.7.10.1.3 South Fork Eel River Hydrologic Area Temperature Total Maximum Daily Load*

***Description:*** On December 16, 1999, U.S. EPA established the South Fork Eel River TMDL for Temperature because the river exceeds temperature water quality standards. The cold-water fishery is the most sensitive beneficial use in the watershed. A decline of cold-water fish populations can be attributed to temperatures that exceed the tolerances of these species. Temperature increases in the South Fork Eel River are the result of reductions in riparian vegetation and increased sediment. Stream heating in excess of natural levels arises due to removal of streamside vegetation, stream widening due to increased sedimentation, and the transport of excess heat downstream.

***Final Waste Load Allocations and Contributions Specific to the Department:*** This temperature TMDL identifies load allocations in terms of effective shade by vegetation type and stream width. The Department is not specifically identified as contributing to the impairment of the watershed. However, roads are a contributing factor. This temperature TMDL assigns load allocations as the percent of riparian shade along a stream segment. The

Department-specific proportional responsibility for restoration of riparian shade is specified in Table A-4 above.

***Final Temperature Deadlines**:* U.S. EPA established this TMDL on December 16, 1999. An implementation schedule was not included; therefore, the final deadline was December 16, 1999.

*A9.7.10.1.4 Eel River (Upper Main Hydrologic Area) Temperature Total Maximum Daily Load*

***Description:*** On December 29, 2004, U.S. EPA established the Eel River Upper Main TMDL for Temperature because the river exceeds temperature water quality standards. Historically large salmon and steelhead populations have been greatly reduced due to elevated water temperatures. The TMDL does not include an implementation plan.

***Heat and Shade Allocations and Contribution Specific to the Department:*** U.S. EPA assigns a temperature wasteload allocation to the Department and other point source dischargers as zero net increase in receiving water temperature. The temperature TMDL assigns a load allocation as the percent of shade along a stream segment. This Order implements the temperature TMDL by requiring riparian restoration according to the Department's proportional responsibility.

The Department-specific proportional responsibility for restoration of riparian shade is specified in Table A-4 and the table, below:

**Effective Shade Load Allocations Expressed as Stream Width in Meters and Percent of Stream Shaded**

| Vegetation Type | 1 -2 meters | 2 - 5 meters | 5 - 10 meters | 10 - 15 meters | 15 - 20 meters | 20 - 30 meters |
|---|---|---|---|---|---|---|
| Mixed Conifer | 96% | 91% | 82% | 68% | 52% | 37% |
| Mixed Hardwood/Conifer dominated | 96% | 90% | 79% | 67% | 49% | 33% |
| Mixed Hardwood/conifer Hardwood dominated | 96% | 90% | 79% | 66% | 49% | 33% |
| Mixed Hardwood | 95% | 90% | 78% | 65% | 47% | 33% |
| Mixed Oak Woodlands | 95% | 89% | 78% | 64% | 44% | 26% |

***Final Compliance Deadline:*** The TMDL was established by U.S. EPA on December 29, 2004. A deadline was not included; therefore, the compliance deadline was December 29, 2004.

*A9.7.10.1.5 Klamath River in California Temperature, Total Maximum Daily Load*

***Description:*** The Klamath River Temperature TMDL states that water temperatures in the Klamath River regularly exceed thresholds protective of salmonids. The TMDL allocates sources of elevated temperatures in the watershed. This TMDL was approved by U.S. EPA on December 28, 2010. The Iron Gate Fish Hatchery is the only point source heat load in the Klamath River. The TMDL addresses elevated temperatures from natural and non-point anthropogenic sources. Non-point sources include excess solar radiation, heat loads associated with increased sediment loads, heat loads from impoundments, and heat loads from Oregon.

***Final Load Allocations*:** The Klamath River Temperature TMDL identifies natural and non-point anthropogenic sources.

***Contribution Specific to the Department:*** The Department is identified as a responsible party based on land use. This temperature TMDL assigns load allocations as the percent of riparian shade along a stream segment. The Department-specific proportional responsibility for restoration of riparian shade is specified in Table A-4, above, and the following table:

**Klamath River Temperature Load Allocations**

| Source | Allocation |
|---|---|
| Excess Solar Radiation (expressed as effective shade) | The shade provided by topography and full potential vegetation conditions at a site, with an allowance for natural disturbances such as floods, wind throw, disease, landslides, and fire. |
| Increased Sediment Loads | Zero temperature increase caused by substantial human-caused sediment-related channel alterations. |
| Impoundment Discharges | Zero temperature increase above natural temperature |
| Excess Solar Radiation (expressed as effective shade) | The shade provided by topography and full potential vegetation conditions at a site, with an allowance for natural disturbances such as floods, wind throw, disease, landslides, and fire. |
| Increased Sediment Loads | Zero temperature increase caused by substantial human-caused sediment-related channel alterations.[2] |
| Impoundment Discharges | Zero temperature increase above natural temperatures |

Table Notes:

1. Natural temperature is the water temperature that exist in the absence of anthropogenic influences and are equal to natural background.

2. Substantial human-caused sediment-related channel alteration: “A human-caused alteration of stream channel dimensions that increases channel width, decreases depth, or removes riparian vegetation to a degree that alters stream temperature dynamics and is caused by increased sediment loading.”

***Final Compliance Deadline:*** The TMDL was approved by U.S. EPA on December 28, 2010, which is the effective date of the TMDL. An implementation schedule was not included; therefore, the final compliance deadline was December 28, 2010.

*A9.7.10.1.6 Navarro River Temperature Total Maximum Daily Load*

***Description:*** On December 31, 2000, U.S. EPA established the Navarro River Temperature TMDL because of a temperature increase in the watershed; therefore, actions to reduce heat are needed to implement water quality standards.

The TMDL for temperature in the Navarro River is divided among the non-point sources of heat in the watershed. The Department’s roads are a non-point source for temperature elevation, which includes temperature elevation due to sediment deposits and vegetation removal along roads.

***Final Waste Load Allocations****:* The TMDL allocations are for non-point sources only and are expressed in terms of effective shade. The Department’s responsibility for acres of riparian shade to be restored is equal to the roadway area within the riparian setback, as shown in Table A-4.

***Contribution Specific to the Department:*** The proportioned contributions from the Department’s roads are defined in Table A-4.

***Final Compliance Deadline:*** On December 31, 2000, U.S. EPA established the TMDL. An implementation schedule was not included; therefore, the final deadline was December 31, 2000.

*A9.7.10.1.7 Scott River Temperature Total Maximum Daily Load*

***Description:*** The North Coast Water Board developed the Scott River Temperature TMDL because the watershed is impaired by elevated water temperatures that adversely impact beneficial uses associated with cold freshwater salmonid fisheries. U.S. EPA approved the TMDL on August 9, 2006. The TMDL identifies the primary factor affecting stream temperatures is increased solar radiation resulting from reductions of shade provided by near-stream vegetation. Anthropogenic processes that influence water temperature include changes to the following: stream shade, stream flow via changes in groundwater accretion, stream flow via surface water use, microclimate, and

channel geometry. While the Department is not specifically identified as a point source, roads are identified as a non-point source associated with sediment, and thus elevated temperature, in this watershed.

***Final Load Allocations:*** Load allocations are from non-point sources and are expressed as effective shade and adjusted potential shade. The Department's responsibility for acres of riparian shade to be restored is equal to the roadway area within the riparian setback, as shown in Table A-4

***Contributions Specific to the Department:*** The TMDL does not include specific allocations for the Department and the proportionate contribution from the Department's roads is not identified.

***Final Compliance Deadline:*** The final compliance deadline is August 8, 2046.

*A9.7.10.1.8 Shasta River Temperature Total Maximum Daily Load*

***Description:*** The Shasta River Temperature TMDL was adopted by the North Coast Water Board, which was subsequently approved by U.S. EPA on December 26, 2007. The TMDL was established because temperature exceeds water quality standards that has impaired the beneficial uses of water, including cold freshwater habitat and sport fishing. The TMDL does not identify the Department as a point source contributing to heat loads in the Shasta River. However, non-point sources that affect temperature elevation include activities such as flow modification and flow diversion during road construction, maintenance, and routine use.

***Final Waste Load Allocations****:* There are no known point source heat loads to the Shasta River. The TMDL is allocated among the non-point source heat loads in the watershed: (1) solar heat load (i.e., sunlight) at streamside (riparian) locations in the watershed, (2) heat load from tailwater return flows, and (3) reduced assimilative capacity from surface water flow reductions.

***Contributions Specific to the Department:*** This temperature TMDL assigns load allocations as the percent of riparian shade along a stream segment. The Department-specific proportional responsibility for restoration of riparian shade is specified in Table A-4, above.

***Final Compliance Deadline:*** The final compliance deadline for all identified discharges associated with riparian land use activities to comply with water quality standards and the TMDLs was December 26, 2017.

*A9.7.11 Pollutant Category—Chloride Total Maximum Daily Load*

***General Description of Pollutant Category:*** Elevated chloride concentrations are causing exceedances of the water quality objectives in some watersheds and result in impairment of beneficial uses. Elevated chloride levels in irrigation water

of salt sensitive crops such as avocados, strawberries, and nursery crops result in reduced crop yields.

***Sources of Pollutant and How Pollutant Enters the Waterway:*** The most significant sources of chloride are wastewater discharges from water reclamation plants.

***Watershed Contribution:*** The Department is a relatively minor source of chloride since the sources of chloride are not transportation related.

***Control Measures:*** Compliance with the chloride waste load allocation is expected without any additional control actions if the Department complies with this Order.

A9.7.11.1 Los Angeles Region Chloride Total Maximum Daily Loads

*A9.7.11.1.1 Santa Clara River Reach 3 Chloride Total Maximum Daily Load*

***Description:*** On June 18, 2003, U.S. EPA established the Santa Clara River Reach 3 TMDL for chloride because the river exceeds the water quality standards for chloride. The purpose of the TMDL is to identify the amount of chloride that can be delivered to the river without exceedance of water quality standards and to allocate the total load among the sources. Runoff discharging from NPDES permitted stormwater systems is a source that are assigned waste load allocations. The Department is specifically identified as a minor point-source discharge. The Santa Paula and Fillmore water reclamation plants are the major point sources that discharge 80 percent of the total estimated load into Santa Clara River Reach 3.

***Final Department-Specific Waste Load Allocation:*** The Department's waste load allocation for Santa Clara River Reach 3 is 80 milligrams per liter. The Department is one of five minor point sources that discharge to Santa Clara River Reach 3. The Department is considered a minor discharger because the chloride concentrations are distributed at a low flow over a short period.

***Final Compliance Deadline:*** On June 18, 2003, U.S. EPA established this TMDL. An implementation schedule was not included; therefore, the final deadline was June 18, 2003.

*A9.7.11.1.2 Upper Santa Clara River Chloride Total Maximum Daily Load*

***Description:*** On April 28, 2015, U.S. EPA approved the revised Upper Santa Clara River Chloride TMDL. Discharges from water reclamation plants are the primary source of chloride and contribute 70 percent to the load. Chloride from these sources accumulates and degrades groundwater used for crop irrigation.

***Final Waste Load Allocations and Contribution Specific to the Department:*** Municipal stormwater systems each receive a waste load allocation of

100 milligrams per liter as a three-month rolling average. Further Department-specific waste load allocations and proportions are not defined. Thus, the Department's relative contribution to the chloride pollutant loading in the Upper Santa Clara River is not defined. These waste load allocations are specified as from "other point source discharges."

***Final Compliance Deadline:*** The final compliance deadline was July 1, 2019.